

# DEPARTMENT OF COMMERCE

## BUREAU OF THE CENSUS

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# CENSUS OF MANUFACTURES 1914

# NORTH DAKOTA

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## CONTENTS

	Page		Page
Explanation of terms.....	2	General statistics—Continued.	
General statistics.....	3	Character of ownership.....	8
General character of the state.....	3	Size of establishments.....	9
Importance and growth of manufactures.....	3	Engines and power.....	11
Flour-mill and gristmill products.....	4	Fuel.....	11
Printing and publishing.....	4	Special statistics.....	12
Butter.....	5	Flour-mill and gristmill products.....	12
Cars and general shop construction and repairs by steam- railroad companies.....	5	Printing and publishing.....	12
Persons engaged in manufacturing industries.....	5	Butter.....	12
Wage earners employed, by months.....	6	Laundries.....	13
Prevailing hours of labor.....	7	General tables:	
Location of establishments.....	8	Table 22.—Comparative summary for 1914, 1909, and 1904.....	13
		Table 23.—Detail statement for the state, by industries, and for cities of 10,000 to 50,000 inhabitants: 1914.....	14



## EXPLANATION OF TERMS.

**Scope of census.**—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention should be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or whose products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

**Period covered.**—The returns relate to the calendar year 1914, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

**The establishment.**—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment.

**Classification by industries.**—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

As a rule, the same designation is used for the industry wherever it appears, although all of the products indicated by this designation were not manufactured in the state or city for which these statistics are presented. In some instances the wording is changed so as to more correctly describe the products represented. For a number of industries subclasses are shown which indicate more definitely the kind of products.

**Selected industries.**—The general tables at the end of this bulletin give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

**Comparisons with previous censuses.**—Owing to changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. At the census of 1909 the figures for kindred industries were combined. This practice, as a rule, has been followed in compiling the statistics of 1914 when placed in comparison with those for 1909 and prior years. The comparative summary for 1914, 1909, and 1904, therefore, does not show separately all the industries given for 1914 in the detailed statement for the state.

**Influence of increased prices.**—In comparing figures for cost of materials, value of products, and value added by manufacture in 1914 and 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

**Persons engaged in the industry.**—The following general classes of persons engaged in the manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. In comparative tables covering the census of 1904 it is of course necessary to group the figures according to the classification that was employed at the earlier censuses.

The number of persons engaged in each industry, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date was not a representative day an earlier date was chosen.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained approximates the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined for any state, because, in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation. This total, however, is shown for the different cities, because the limited area and greater regularity of employment largely overcame the objection incident to its publication for the separate states or the United States.

In particular, totals by sex and age for the wage earners reported for the representative day for all industries combined would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for a given state as a whole, the per cent distribution by sex and age of the wage earners in each industry for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year in that industry to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added to give the average distribution for each state as a whole and for the entire country.

**Salaries and wages.**—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and represent the approximate number who would be required to perform the work in any industry if all were continuously employed during the year, whereas the actual number to whom the total wages were paid would be larger.

**Prevailing hours of labor.**—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

**Capital.**—The instructions on the schedule for securing data relating to capital were as follows:

"The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises."

These instructions were identical with those employed at the census of 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating very general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

**Materials.**—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

**Rent and taxes.**—The taxes include internal revenue, corporation income tax, and state, county, and local taxes. In some instances the amount of the corporation tax for 1914 had not been ascertained when the report was prepared and the amount paid for 1913 was therefore given.

**Value of products.**—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

**Value added by manufacture.**—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

**Cost of manufacture and profits.**—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of interest or depreciation, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

**Primary horsepower.**—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use, since in most cases an engine or motor is not required to deliver continuously its full rated horsepower.

**Fuel.**—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.



# NORTH DAKOTA.

By MARY E. FEENEY.

## GENERAL STATISTICS.

**General character of the state.**—North Dakota, with a gross area of 70,837 square miles, of which 70,183 represent land surface, ranks sixteenth in size among the states. Its inhabitants in 1900 numbered 319,146, and in 1910, 577,056, and its estimated population in 1914 was 687,000. In population North Dakota ranked thirty-seventh among the states in 1910; and in density of population it ranked thirty-ninth, with 8.2 inhabitants per square mile, the corresponding number for density in 1900 being 4.5.

The urban population in 1910—that is, the population residing in cities and towns of 2,500 inhabitants or more—was 63,236, or 11 per cent of the total, as against 7.3 per cent in 1900. There were, in the state in 1914, two cities, each having an estimated population of more than 10,000, namely, Fargo and Grand Forks. These two cities, whose aggregate population in that year formed but 4.5 per cent of the estimated total population of North Dakota, reported 22.8 per cent of the state's manufactured products.

Several important railway systems traverse the state, from east to west, and these lines, with connecting railways, provide good transportation facilities. The steam-railway mileage in 1914, as reported by the Interstate Commerce Commission, was 5,160.

North Dakota is primarily an agricultural state. In 1909 more than three-fifths of its entire land area was in farms. The total value of all farm crops in that

year was \$180,635,520, of which more than three-fifths, \$109,129,869, represented wheat. This state leads all others in the production of wheat, its crop in 1909 being 116,781,886 bushels, or more than one-sixth of the total for the United States.

The mineral products of North Dakota in 1914, according to the annual report of the United States Geological Survey, were valued at \$1,063,540, the principal product being brown coal or lignite.

**Importance and growth of manufactures.**—In 1914 the value of the products of North Dakota's manufacturing industries was \$21,147,431; the average number of wage earners engaged in such industries, 3,275; and the value added by manufacture, which is the best measure of importance of manufacturing industries, was \$6,663,116. In 1914 the state ranked forty-sixth in value of products, forty-eighth in average number of wage earners, and forty-seventh in value added by manufacture; while in 1909 it ranked forty-fifth, forty-eighth, and forty-sixth, respectively. At each of the last three censuses the value of the manufactured products of North Dakota represented only one-tenth of 1 per cent of the total for the United States.

Table 1 summarizes the more important data relative to all classes of manufactures combined in the state, for the censuses of 1914, 1909, 1904, and 1899, and gives the percentages of increase from census to census.

Table 1

	MANUFACTURING INDUSTRIES.				PER CENT OF INCREASE. <sup>1</sup>		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	699	752	507	337	-7.0	48.3	50.4
Persons engaged.....	4,627	4,148	2,545	(2)	11.5	63.0	-----
Proprietors and firm members.....	603	723	494	(2)	-16.6	46.4	-----
Salaried employees.....	749	636	296	152	17.8	114.9	94.7
Wage earners (average number).....	3,275	2,789	1,755	1,358	17.4	58.9	29.2
Primary horsepower.....	15,082	13,196	9,873	7,351	14.1	33.7	34.3
Capital.....	\$14,213,362	\$11,584,747	\$5,703,837	\$3,511,968	22.7	103.1	62.4
Salaries and wages.....	3,302,200	2,416,135	1,289,119	800,853	36.7	87.4	61.0
Salaries.....	885,965	628,730	257,812	129,532	40.9	143.9	99.0
Wages.....	2,416,235	1,787,405	1,031,307	671,321	35.2	73.3	53.6
Paid for contract work.....	72,009	21,323	17,869	(2)	237.7	19.3	-----
Rent and taxes (including internal revenue).....	213,328	159,787	77,961	(2)	33.5	-----	-----
Cost of materials.....	14,484,315	13,673,590	7,095,986	4,150,880	5.9	92.7	71.0
Value of products.....	21,147,431	19,137,506	10,217,914	6,259,840	10.5	87.3	63.2
Value added by manufacture (value of products less cost of materials).....	6,663,116	5,463,916	3,121,928	2,108,980	21.9	75.0	48.0

<sup>1</sup> A minus sign (—) denotes decrease; percentages are omitted where comparable figures can not be given.

<sup>2</sup> Figures not available.

<sup>3</sup> Exclusive of internal revenue.

During the period covered by the table the number of establishments engaged in manufactures, the number of wage earners employed, and the primary horsepower used in these manufactures have more than doubled, and the value of manufactured products have more than trebled.

All of the items, except contract work, show smaller increases from 1909 to 1914 than for the preceding five-year period, while two show actual decreases. The decrease of 53, or 7 per cent, from 1909 to 1914 in the number of establishments was due chiefly to the decreases in the flour-mill and gristmill and bakery

industries, and the decrease of 16.6 per cent in the number of proprietors and firm members was due largely to the smaller number of establishments in the two industries referred to, which were chiefly of individual or partnership organization. The large percentage of increase shown for contract work does not signify the expansion of manufacturing operations, but a change of the methods employed. The industry which influenced the increase in this item in 1914 was print-

ing and publishing. The value added by manufacture, although greater in amount at each successive census for which figures are given in the table, shows a smaller proportional increase from 1909 to 1914 than for either of the preceding five-year periods.

Table 2 shows the relative importance of the leading manufacturing industries in 1914, and gives percentages of increase for the three five-year periods from 1899 to 1914.

Table 2

Table 2	CENSUS OF 1914.							PER CENT OF INCREASE. <sup>1</sup>									
	INDUSTRY.	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.		
			Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
All industries.....	699	3,275	100.0	\$21,147,431	100.0	\$6,663,116	100.0	17.4	58.9	29.2	10.5	87.3	63.2	21.9	75.0	43.0	
Flour-mill and gristmill products.....	59	424	12.9	12,029,905	56.9	1,957,661	29.4	-2.5	39.4	14.7	3.0	80.8	67.9	20.1	63.0	33.7	
Printing and publishing.....	351	752	23.0	2,220,217	10.5	1,765,211	26.5	-4.6	53.0	34.8	16.2	72.1	54.2	20.1	68.4	53.7	
Butter.....	58	115	3.5	1,739,692	8.2	275,215	4.1	.....	.....	.....	69.1	83.1	300.7	100.0	64.3	223.1	
Cars and general shop construction and repairs by steam-railroad companies.....	7	871	26.6	1,235,171	5.8	823,555	12.4	88.1	217.1	15.9	81.6	236.6	43.3	116.6	214.0	59.2	
Bread and other bakery products.....	58	205	6.3	810,465	3.8	365,785	5.5	40.4	.....	.....	34.8	93.2	284.0	43.1	100.8	188.6	
Confectionery.....	3	105	3.2	442,914	2.1	140,612	2.1	.....	.....	.....	-2.6	.....	.....	-10.2	.....	.....	
Saddlery and harness.....	10	88	2.7	421,973	2.0	148,414	2.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Copper, tin, and sheet-iron work.....	9	65	2.0	321,018	1.5	113,893	1.7	.....	.....	.....	24.4	183.5	78.4	-13.0	172.9	37.1	
Mineral and soda waters.....	24	56	1.7	282,300	1.3	161,569	2.4	.....	.....	.....	-7.2	94.9	239.1	-5.8	52.7	348.0	
Gas, illuminating and heating.....	9	52	1.6	273,022	1.3	163,639	2.5	.....	.....	.....	37.2	95.1	.....	35.5	77.9	.....	
Brick.....	9	171	5.2	270,199	1.3	211,240	3.2	-9.0	60.7	8.3	-5.9	68.8	28.8	-1.4	57.4	33.3	
All other industries.....	102	371	11.3	1,100,555	5.2	536,322	8.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	

<sup>1</sup> Percentages are based on figures in Table 22; a minus sign (—) denotes decrease; percentages are omitted where base is less than 100, or where comparable figures can not be given.

Separate statistics are presented for 11 industries or industry groups, for each of which products valued at more than \$250,000 were reported for 1914. These industries include 1 with products exceeding \$12,000,000, 3 with products between \$1,000,000 and \$3,000,000, and 7 with products valued at less than \$1,000,000.

The industries in this table are arranged in the order of their importance as shown by value of products, but the arrangement would vary considerably from that shown, if determined by average number of wage earners, or value added by manufacture. Flour mills and gristmills ranked first in value of products and value added by manufacture but third in average number of wage earners. Butter, third in value of products, was fifth in value added by manufacture and sixth in average number of wage earners. The operations of steam-railroad repair shops ranked fourth in value of products, was first in number of wage earners, and third in value added by manufacture.

In rank, according to value of products, there were a number of changes in 1914 as compared with 1909. Of the more important industries shown, flour mills and gristmills, printing and publishing, and butter held the same rank in value of products at both censuses. The operations of steam-railroad repair shops and bakeries, ranking fourth and fifth, respectively, in 1914, were fifth and sixth in 1909. Confectionery, which was sixth in 1914, ranked seventh in 1909.

*Flour-mill and gristmill products.*—This industry, which excludes custom mills grinding for toll or local consumption, is the most important industry in the state as measured by value of products, contributing 56.9 per cent of the total value of products for the state in 1914 and 1.4 per cent of the total value of products of this industry reported for the United States. There was an increase of \$344,789, or 3 per cent, in value of products, and of \$327,459, or 20.1 per cent, in value added by manufacture. Machinery is largely used in this industry and comparatively few employees are required, therefore, the proportional value added to the raw material by manufacture is small in comparison with the corresponding proportions for most other industries.

*Printing and publishing.*—In 1914 over one-half of the total number of establishments reported in the state were engaged in this industry, which was second in importance in wage earners employed, value of products, and value added by manufacture. Although there was an increase of 21 in the number of establishments reporting in 1914, as compared with 1909, the average number of wage earners decreased by 36, or 4.6 per cent. In 1914 the value of products was \$2,220,217, an increase of \$310,703, or 16.2 per cent, over 1909; the growth was more pronounced from 1904 to 1909, when the increase was 72.1 per cent.

*Butter.*—The 58 establishments in this industry were practically wholly engaged in the manufacture of butter in 1914. In value of products it was third in importance in the state in 1914 and in 1909. The increase in value of products from 1909 to 1914 was \$710,557, or 69.1 per cent. The growth of this industry was much greater during the census period 1899–1904, when the value of products increased by 360.7 per cent, and the value added by manufacture, 223.1 per cent, than during the two following census periods.

*Cars and general shop construction and repairs by steam-railroad companies.*—The statistics for this industry represent the work done in car shops operated by steam-railroad companies but do not include the minor repairs made in roundhouses. The operations consist principally of repairs to rolling stock and equipment but include also shopwork done for the track and bridge and building departments. Employment was given to an average of 871 wage earners, the largest number reported by any of the industries. This number represents an increase of 408, or 88.1 per cent, as compared with 1909. The value of work done in 1914 was \$1,235,171, or 81.6 per cent increase over 1909.

**Persons engaged in manufacturing industries.**—Table 3 shows, for 1914 and 1909, the number of persons engaged in manufactures, distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

In 1914 the number of persons engaged in manufactures was 4,627, of whom 3,275, or more than two-

thirds, were wage earners, 860 were proprietors and officials, and 492 were clerks and other subordinate salaried employees. Ninety per cent of the total number of persons engaged in manufactures were males. The largest number of males (2,972) reported for 1914 were employed as wage earners. The largest proportion of females (27.6) were reported as clerks and other subordinate salaried employees. Figures for individual industries will be found in Table 23.

**Table 3**

CLASS.	Cen- sus year.	PERSONS ENGAGED IN MANUFAC- TURING INDUSTRIES.					
		Total.	Male.	Fe- male.	Per cent of total.		
					Male.	Fe- male.	
All classes.....	1914 1909	4,627 4,148	4,164 3,777	463 371	90.0 91.1	10.0 8.9	
Proprietors and officials.....	1914 1909	860 965	836 936	24 29	97.2 97.0	2.8 3.0	
Proprietors and firm members...	1914 1909	603 723	582 697	21 26	96.5 96.4	3.5 3.6	
Salaried officers of corporations..	1914 1909	63 64	62 64	1 .....	98.4 100.0	1.6 .....	
Superintendents and managers..	1914 1909	194 178	192 175	2 3	99.0 98.3	1.0 1.7	
Clerks and other subordinate sala- ried employees.	1914 1909	492 394	356 303	136 91	72.4 76.9	27.6 23.1	
Wage earners (average number) ....	1914 1909	3,275 2,789	2,972 2,538	303 251	90.7 91.0	9.3 9.0	
16 years of age and over.....	1914 1909	3,245 2,732	2,945 2,489	300 243	90.8 91.1	9.2 8.9	
Under 16 years of age.....	1914 1909	30 57	27 49	3 8	90.0 86.0	10.0 14.0	

Table 4 gives, for the several classes of persons engaged in manufactures, the percentages of increase from 1909 to 1914 and the per cent distribution at the two censuses.

**Table 4**

CLASS.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.							
	Per cent of increase, <sup>1</sup> 1909–1914.			Per cent distribution.				
	Total.	Male.	Female.	Total.		Male.		Female.
				1914	1909	1914	1909	1914 1909
All classes.....	11.5	10.2	24.8	100.0	100.0	100.0	100.0	100.0
Proprietors and officials.....	–10.9	–10.7	.....	18.6	23.3	20.1	24.8	5.2 7.8
Proprietors and firm members.....	–16.6	–16.5	.....	13.0	17.4	14.0	18.5	4.5 7.9
Salaried officers of corporations.....	.....	.....	.....	1.4	1.5	1.5	1.7	0.2
Superintendents and managers.....	9.0	9.7	.....	4.2	4.3	4.6	4.6	0.4 0.8
Clerks and other subordinate salaried employees.....	24.9	17.5	.....	10.6	9.5	8.5	8.0	29.4 24.5
Wage earners (average number).....	17.4	17.1	20.7	70.8	67.2	71.4	67.2	65.4 67.7
16 years of age and over.....	18.8	18.3	23.5	70.1	65.9	70.7	65.9	64.8 65.5
Under 16 years of age.....	.....	.....	.....	0.6	1.4	0.6	1.3	0.6 2.2

<sup>1</sup> A minus sign (–) denotes decrease; percentages are omitted where base is less than 100.

This table shows increases in the total of the several classes of employees but a decrease in proprietors and firm members. This class formed 13 per cent of the total for all classes in 1914, having decreased from 17.4 per cent in 1909. The decrease is due to reductions in the number of small establishments operated by individuals or firms, as previously explained, and also to the fact that some establishments,

reported in 1909 as owned by individuals or firms, were incorporated during the period between the censuses. Wage earners over 16 years of age formed 70.1 per cent of the total number of persons engaged in manufacturing industries in the state in 1914 and 65.9 per cent in 1909. The largest percentage of increase for both sexes combined, 24.9, is shown for clerks and other subordinate salaried employees. The proportion

which this class formed of the total number for all classes was 10.6 per cent in 1914 and 9.5 per cent in 1909.

The average number of wage earners employed, and their per cent distribution as males 16 years of age and over, females 16 years of age and over, and children under 16 years of age is given in Table 5, for 1914, 1909, and 1904. The table also shows, for some of the important industries separately, a similar distribution of wage earners for 1914 and 1909.

INDUSTRY.	Census year.	WAGE EARNERS.			
		Average number. <sup>1</sup>	Per cent of total.		
			16 years of age and over.		Under 16 years of age.
			Male.	Female.	
All industries.....	1914	3,275	89.9	9.2	0.9
	1909	2,789	89.3	8.7	2.0
	1904	1,755	86.7	11.3	2.0
Bread and other bakery products.....	1914	205	72.2	27.3	0.5
	1909	146	77.4	19.9	2.7
Brick.....	1914	171	100.0	.....	.....
	1909	188	97.3	.....	2.7
Butter.....	1914	115	97.4	0.9	1.7
	1909	62	98.4	.....	1.6
Cars and general shop construction and repairs by steam-railroad companies.	1914	871	99.8	.....	0.2
	1909	463	100.0	.....	.....
Confectionery.....	1914	105	35.2	64.8	.....
	1909	98	38.8	61.2	.....
Flour-mill and gristmill products.....	1914	424	100.0	.....	.....
	1909	435	99.8	0.2	.....
Printing and publishing.....	1914	752	79.9	17.2	2.9
	1909	788	77.4	17.3	5.3
All other industries.....	1914	632	92.2	7.3	0.5
	1909	609	96.4	2.8	0.8

<sup>1</sup> For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see "Explanation of terms."

For all industries combined, the proportion of male wage earners over 16 years of age has increased from census to census. The proportion of females decreased during the decade but shows a small increase from 1909 to 1914. The actual number of females employed, however, has increased from census to census. The proportion of children under 16 years of age employed as wage earners was the same in 1904 and in 1909, but shows a decrease for the decade.

Of the seven industries for which comparative figures are given, three show an increased proportion of males in 1914, as compared with 1909; three an increased proportion of females; and two an increase in the proportion of children employed. In the manufacture of brick and of flour-mill and gristmill products in 1914, all of the wage earners were males 16 years of age and over, while in the confectionery industry, females over 16 years of age formed 64.8 per cent of the wage earners employed. The brick industry, which employed an average of five children under 16 years of age as wage earners in 1909, reported none of this class in 1914.

**Wage earners employed, by months.**—The following table gives, for all industries combined, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

MONTH.	WAGE EARNERS IN MANUFACTURING INDUSTRIES.					
	Number. <sup>1</sup>			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
January.....	3,000	2,356	1,522	82.8	77.2	78.9
February.....	2,954	2,386	1,521	81.5	78.2	78.9
March.....	2,976	2,443	1,561	82.1	80.0	81.0
April.....	3,104	2,580	1,577	85.6	84.5	81.3
May.....	3,207	2,816	1,773	88.5	92.3	92.0
June.....	3,442	3,041	1,907	95.0	99.6	98.9
July.....	3,025	3,004	1,878	100.0	98.4	97.4
August.....	3,554	2,880	1,928	98.0	94.4	100.0
September.....	3,533	2,927	1,928	97.5	95.9	100.0
October.....	3,397	3,033	1,896	93.7	99.4	98.3
November.....	3,333	3,052	1,834	91.9	100.0	95.1
December.....	3,175	2,950	1,735	87.6	96.7	90.0

<sup>1</sup> The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

In 1914 the summer months show the greatest activity in the employment of wage earners in the combined industries of the state, the maximum number appearing for July and the minimum number for February, the minimum number forming 81.5 per cent of the maximum. The year 1909 shows a different condition, when the largest number was employed in November and the smallest number in January, the minimum number forming 77.2 per cent of the maximum. The greatest difference between the numbers for the maximum and minimum months in any one of the three census years was 696, in 1909; the corresponding figures for 1914 and 1904 being 671 and 407, respectively.

Table 7 gives the total average number of wage earners employed during 1914, together with the total number employed on the 15th of each month, or the nearest representative day, for the combined industries of the state, for a number of selected industries, and for the total industries of each of the two cities having more than 10,000 inhabitants.

Among the selected industries, a marked variation is shown between the maximum and minimum number of wage earners employed during the different months. The manufacture of brick, which is a seasonal industry, shows a great variation in the number of wage earners employed, the 53 reported for February, the minimum month, forming only 16.3 per cent of the 326 reported for June, the maximum month. The greatest stability of employment is shown for printing and publishing, where the proportion which the minimum number formed of the maximum was 90.8 per cent. Of the two cities, the greatest stability of employment of wage earners is shown in Fargo, for which the percentage that the minimum number formed of the maximum was 80.5.

# MANUFACTURES—NORTH DAKOTA.

7

Table 7

Table 7	WAGE EARNERS: 1914. [Month of maximum employment for each industry is indicated by boldface figures and that of minimum by italic figures.]														
	INDUSTRY AND CITY.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum is of maximum.
			January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	3,275	3,000	<i>2,954</i>	2,976	3,104	3,207	3,442	<b>3,625</b>	3,554	3,533	3,397	3,333	3,175	81.5	
Bread and other bakery products.....	205	188	188	<i>187</i>	193	195	199	224	<b>227</b>	<b>227</b>	224	217	191	82.4	
Brick.....	171	95	<i>53</i>	71	130	212	326	321	255	210	140	124	115	16.3	
Butter.....	115	<i>89</i>	<i>89</i>	92	108	118	146	<b>150</b>	147	129	115	100	97	59.3	
Cars and general shop construction and repairs by steam-railroad companies.....	871	812	837	838	829	832	853	<b>983</b>	906	948	918	908	788	80.2	
Confectionery.....	105	106	100	102	100	95	90	<i>84</i>	100	<b>127</b>	<b>127</b>	120	109	66.1	
Flour-mill and gristmill products.....	424	402	403	399	411	<i>375</i>	381	414	417	472	<b>486</b>	466	462	77.2	
Printing and publishing.....	752	750	751	746	739	743	748	<b>738</b>	743	736	756	772	807	90.8	
All other industries.....	632	558	<i>533</i>	541	594	637	699	716	<b>759</b>	684	631	625	606	70.2	
Total for cities.....	1,033	954	<i>921</i>	933	981	1,006	1,101	1,101	1,118	<b>1,120</b>	1,081	1,053	1,017	82.2	
FARGO.....	690	628	<i>608</i>	616	646	684	697	727	754	<b>755</b>	745	727	687	80.5	
GRAND FORKS.....	343	326	<i>313</i>	317	335	322	404	374	364	365	336	326	330	77.5	

Prevailing hours of labor.—In Table 8 the average number of wage earners reported for 1914 and 1909, for all industries combined and for selected industries throughout the state, have been classified according to number of hours of labor per week prevailing in the establishments in which they were employed. A

similar classification is given for 1914 only, for all industries combined, in each of the two cities having more than 10,000 inhabitants. The number employed in each establishment is classified as a total, even though a few employees worked a greater or smaller number of hours.

Table 8

INDUSTRY AND CITY.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.							
		Total.	In establishments where the prevailing hours of labor per week were—						
			48 and under.	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.	Be- tween 60 and 72.	72. Over 72.
All industries.....	1914	3,275	763	116	560	472	996	285	65
	1909	2,789	423	186	542	227	1,303	59	30
Bread and other bakery products.....	1914	205	12	10	33	2	122	16	10
	1909	146	1	.....	2	33	108	2	.....
Brick.....	1914	171	.....	.....	16	.....	155	.....	.....
	1909	188	.....	.....	4	.....	184	.....	.....
Butter.....	1914	115	3	.....	9	5	60	27	11
	1909	62	7	.....	3	.....	50	.....	2
Cars and general shop construction and repairs by steam-railroad companies.....	1914	871	280	.....	88	341	.....	162	.....
	1909	463	.....	124	216	.....	123	.....	.....
Confectionery.....	1914	105	.....	.....	59	46	.....	.....	.....
	1909	98	.....	.....	.....	40	58	.....	.....
Flour-mill and gristmill products.....	1914	424	.....	.....	13	1	317	51	42
	1909	435	3	1	.....	3	348	52	28
Printing and publishing.....	1914	752	405	91	186	9	59	.....	2
	1909	788	377	46	268	58	39	.....	.....
All other industries.....	1914	632	63	15	156	68	283	29	18
	1909	609	35	15	49	93	393	5	19
Total for cities.....	1914	1,033	218	43	172	114	347	108	16
FARGO.....	1914	690	136	41	147	27	259	64	16
GRAND FORKS.....	1914	343	82	2	25	87	88	44	.....

The figures in this table, for the state as a whole and for the selected industries, emphasize the tendency toward a shortening of the working day of wage earners. In 1914, for all industries combined, a larger proportion of the wage earners were employed in establishments where the prevailing hours of labor were 60 per week than in any other group. Of the total number of wage earners in the state,

58.4 per cent were in establishments where the hours of labor were less than 60 per week; the corresponding proportion for 1909 was 49.4 per cent. In 1909, in the operations of steam-railroad repair shops, 73.4 per cent of the wage earners were employed in establishments where the working hours were less than 60 per week, but in 1914 the proportion of wage earners thus employed had increased to 81.4 per cent. In

the printing and publishing industry 53.9 per cent of the wage earners were reported by establishments where the prevailing hours of labor were 48 per week and under, as compared with 1909 where the proportion of wage earners thus employed was 47.8 per cent.

Of the combined total average number of wage earners employed in Fargo and in Grand Forks. in 1914, slightly more than one-half (547) were in establishments where the prevailing hours of labor were fewer than 60 per week, while only 139, or 13.5 per cent, were in establishments in which the hours of labor were more than 60 per week.

**Location of establishments.**—Table 9 shows, for 1914 and 1909, the extent to which the manufactures in North Dakota were centralized in the two cities having more than 10,000 inhabitants.

A comparison of the total for the two cities combined in 1914 with those for 1909 shows actual increases in each item, a condition similar to that which prevailed in the districts outside the two cities, except in number of establishments.

The table shows that for 1914 the two cities, which represented only 4.5 per cent of the estimated population of the state, reported 31.5 per cent of the total average number of wage earners; 31.3 per cent of the total value added by manufacture; 22.8 per cent of the total value of products; and 15.5 per cent of the total number of establishments.

In Fargo, in 1914, the total value of products was \$3,006,043, the most important industries, as measured by value of products, being printing and publishing and the making of butter, bakery products, and sad-

dlery and harness. The total value of products in Grand Forks was \$1,815,669, where flour milling and gristmilling, printing and publishing, and the making of confectionery were the leading industries.

**Table 9**

	Census year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 OR OVER.		DISTRICTS OUTSIDE OF CITIES HAVING A POPULATION OF 10,000 OR OVER.	
			Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.
Number of places.....	1914 1910	..... .....	2 2	..... .....	..... .....	..... .....
Population <sup>1</sup> .....	1914 1910	686,966 577,056	31,178 26,809	4.5 4.6	655,788 550,247	95.5 95.4
Number of establishments.	1914 1909	699 752	108 99	15.5 13.2	591 653	84.5 86.8
Average number of wage earners.	1914 1909	3,275 2,789	1,033 830	31.5 30.8	2,242 1,929	68.5 69.2
Value of products.....	1914 1909	\$21,147,431 19,137,506	\$4,821,712 4,386,907	22.8 22.9	\$16,325,719 14,750,599	77.2 77.1
Value added by manufacture.	1914 1909	6,663,116 5,463,916	2,087,718 1,726,061	31.3 31.6	4,575,398 3,737,855	68.7 68.4

<sup>1</sup> Census estimate of population for 1914.

**Character of ownership.**—Table 10 presents statistics concerning character of ownership, or legal organization, of manufacturing enterprises. For all industries combined, comparative figures are given for 1914, 1909, and 1904; for selected industries, statistics for 1914 and 1909 are shown; and for individual cities, the figures are for all industries combined and relate only to 1914. In order to avoid disclosing the operations of individual establishments, it is necessary to omit several important industries from this table.

**Table 10**

INDUSTRY AND CITY.	Cen- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
					Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Corpora- tions.	All others.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.				
All industries.....	1914 1909 1904	418 472 295	165 133 81	116 147 131	3,275 2,789 1,755	703 775 565	2,366 1,752 826	206 262 364	21.5 27.8 32.2	72.2 62.8 47.1	6.3 9.4 20.7	\$21,147,431 19,137,506 10,217,914	\$3,262,469 3,555,937 2,546,425	\$16,140,195 13,586,608 5,146,817	\$1,744,767 1,994,961 2,524,672	15.4 18.6 24.9	76.3 71.0 50.4	8.3 10.4 24.7				
Bread and other bakery products.	1914 1909	48 55	5 3	5 9	205 146	99 96	91 40	15 10	48.3 65.8	44.4 27.4	7.3 6.8	810,465 600,621	374,288 435,369	353,506 113,067	82,671 52,185	46.2 72.5	43.6 18.8	10.2 8.7				
Butter.....	1914 1909	14 14	21 16	23 38	115 62	27 10	56 18	32 34	23.5 16.1	48.7 29.0	27.8 54.8	1,739,692 1,029,135	425,525 217,563	881,514 267,249	432,653 544,323	24.4 21.1	50.7 26.0	24.9 52.9				
Flour-mill and gristmill products.	1914 1909	13 32	37 35	9 17	424 435	38 52	354 342	32 41	9.0 12.0	83.5 78.6	7.5 9.4	12,029,905 11,685,116	1,005,772 1,268,595	10,345,596 9,581,286	678,537 835,135	8.4 10.9	86.0 82.0	5.6 7.1				
Printing and publishing..	1914 1909	256 257	44 31	51 42	752 788	360 389	343 327	49 72	47.9 49.4	45.6 41.5	6.5 9.1	2,220,217 1,909,514	917,075 897,080	1,019,195 829,231	283,947 183,203	41.3 47.0	45.0 43.4	12.8 9.6				
Total for cities.....	1914	37	55	16	1,033	137	862	34	13.3	83.4	3.3	4,821,712	456,632	4,170,158	194,922	9.5	86.5	4.0				
FARGO.....	1914	28	36	12	690	109	552	29	15.8	80.0	4.2	3,006,043	396,715	2,504,307	105,021	13.2	83.3	3.5				
GRAND FORKS.....	1914	9	19	4	343	28	310	5	8.2	90.4	1.4	1,815,669	59,917	1,665,851	89,901	3.3	91.7	5.0				

This table shows, for all industries combined, an increase during the decade in the number of establishments throughout the state that were operated under both individual and corporate ownership and a decrease in the "all other" class. The greatest proportion of the establishments, nearly three-fifths of the total in 1914, is shown for those under individual

ownership, but in value of products and average number of wage earners those owned by corporations greatly predominated. In 1914, although only 23.6 per cent of the total number of establishments in the state were under corporate ownership, this class reported 76.3 per cent of the total value of products and 72.2 per cent of the total average number of wage



earners. In 1909 and 1904 the corresponding percentages were slightly less. In the bread and bakery industry, 91.4 per cent of the establishments, reporting 56.4 per cent of the value of products, were under individual and all other forms of ownership. The largest proportion of the value of products for the four industries was shown for corporate ownership, with the exception of bread and bakery products, in which the proportion for corporations is only slightly less than that for individual ownership. For all industries

combined in Fargo and Grand Forks in 1914 more than one-half of the establishments were under corporate ownership, and the proportion of value of products and average number of wage earners was greatly in excess of that for the individual and the all other forms of ownership combined.

**Size of establishments.**—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is indicated by the statistics given in Table 11.

Table 11 VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904
All classes.....	699	752	507	3,275	2,789	1,755	\$21,147,431	\$19,137,506	\$10,217,914	\$6,663,116	\$5,463,916	\$3,121,928
Less than \$5,000.....	360	382	285	302	351	290	906,316	915,406	669,773	677,473	858,537	469,202
\$5,000 to \$20,000.....	206	238	132	581	628	439	2,000,450	2,350,795	1,262,776	1,009,318	1,103,610	641,885
\$20,000 to \$100,000.....	92	99	66	886	951	591	4,038,119	4,767,125	2,798,317	1,677,089	1,703,216	1,024,540
\$100,000 and over.....	141	133	24	1,506	859	435	14,202,546	11,104,180	5,487,048	3,299,236	1,998,553	986,801
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	51.5	50.8	56.2	9.2	12.6	16.5	4.3	4.8	6.6	10.2	12.1	15.0
\$5,000 to \$20,000.....	29.5	31.6	26.0	17.7	22.5	25.0	9.5	12.3	12.4	15.1	20.2	20.5
\$20,000 to \$100,000.....	13.2	13.2	13.0	27.1	34.1	33.7	19.1	24.9	27.4	25.2	31.2	32.8
\$100,000 and over.....	5.9	4.4	4.7	46.0	30.8	24.8	67.2	58.0	53.7	49.5	36.6	31.6

<sup>1</sup> Includes the group "\$1,000,000 and over."

This table shows that of the 699 establishments reported for the state in 1914, 41, or 5.9 per cent of the total number, each reported products exceeding \$100,000 in value, as compared with 33, or 4.4 per cent, in 1909, and 24, or 4.7 per cent, in 1904. For 1914 these establishments employed an average of 1,506 wage earners, or 46 per cent of the total for the state, and reported 67.2 per cent of the total value of products and 49.5 per cent of the total value added by manufacture. There was a general increase at each successive census in value of products and value added by manufacture in the relative importance of

these large establishments, and a decrease in each of the other classes. In the same year the small establishments—those having products valued at less than \$5,000—represented 51.5 per cent of the total number of establishments, but reported only 4.3 per cent of the total value of products and 10.2 per cent of the value added by manufacture.

Table 12 gives, for 1914 and 1909, for four of the more important industries, a classification of establishments, wage earners, value of products, and value added by manufacture, similar to that presented in Table 11 for all industries combined.

Table 12 INDUSTRY AND VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.				AVERAGE NUMBER OF WAGE EARNERS.				VALUE OF PRODUCTS.				VALUE ADDED BY MANUFACTURE.			
	1914	1909	Per cent distribution.		1914	1909	Per cent distribution.		1914	1909	Per cent distribution.		1914	1909	Per cent distribution.	
			1914	1909			1914	1909			1914	1909			1914	1909
BREAD AND OTHER BAKERY PRODUCTS.....	58	67	100.0	100.0	205	146	100.0	100.0	\$810,465	\$600,621	100.0	100.0	\$365,785	\$254,706	100.0	100.0
Less than \$5,000.....	21	31	36.2	46.3	14	14	6.8	9.6	64,779	82,071	8.0	13.7	30,562	38,881	8.4	15.3
\$5,000 to \$20,000.....	32	30	55.2	44.8	86	68	42.0	46.6	313,551	290,483	38.7	48.4	143,013	124,193	39.1	48.8
\$20,000 to \$100,000.....	15	6	8.6	9.0	105	64	51.2	43.8	432,135	228,067	53.3	38.0	192,210	91,632	52.5	36.0
BUTTER.....	58	68	100.0	100.0	115	62	100.0	100.0	1,739,692	1,029,135	100.0	100.0	275,215	137,806	100.0	100.0
Less than \$20,000 <sup>2</sup> .....	36	51	62.1	75.0	33	39	28.7	62.9	434,887	500,442	25.0	48.6	57,595	74,086	20.9	53.8
\$20,000 to \$100,000.....	17	17	29.3	25.0	40	23	34.8	37.1	567,066	528,693	32.6	51.4	81,522	63,710	33.3	46.2
\$100,000 and over.....	5		8.6		42		36.5		737,199		42.4		126,098		45.8	
FLOUR-MILL AND GRISTMILL PRODUCTS.....	59	84	100.0	100.0	424	435	100.0	100.0	12,029,905	11,685,116	100.0	100.0	1,957,661	1,630,202	100.0	100.0
Less than \$5,000.....	3	3	5.1	3.6	1	2	0.2	0.5	10,428	11,123	0.1	0.1	1,821	1,899	0.1	0.1
\$5,000 to \$20,000.....	11	22	18.6	26.2	14	14	3.3	3.2	113,789	282,006	0.9	2.4	21,036	46,980	1.1	2.9
\$20,000 to \$100,000.....	24	35	40.7	41.7	65	105	15.3	24.1	1,160,300	2,029,191	9.6	17.4	211,702	362,469	10.8	22.2
\$100,000 and over.....	21	24	35.6	28.6	344	314	81.1	72.2	10,745,388	9,362,736	89.3	80.1	1,723,102	1,218,884	88.0	74.8
PRINTING AND PUBLISHING..	351	330	100.0	100.0	752	788	100.0	100.0	2,220,217	1,909,514	100.0	100.0	1,765,211	1,469,733	100.0	100.0
Less than \$5,000.....	265	248	75.5	75.2	231	254	30.7	32.2	661,716	599,352	29.8	31.4	544,325	489,455	30.8	33.3
\$5,000 to \$20,000.....	70	69	19.9	20.9	231	246	30.7	31.2	560,468	559,883	25.2	29.3	444,794	439,454	25.2	29.9
\$20,000 to \$100,000 <sup>1</sup> .....	16	13	4.6	3.9	290	288	38.6	36.5	998,033	750,279	45.0	39.3	776,092	540,824	44.0	36.8

<sup>1</sup> Includes the group "\$100,000 to \$1,000,000."

<sup>2</sup> Includes the group "less than \$5,000."

<sup>3</sup> Includes the group "\$1,000,000 and over."

For 1914, as compared with 1909, this table shows that, for the industries reporting establishments having products of less than \$20,000 in value, the printing and publishing and bread and bakery industries show increases during the five-year period in value of products and in value added by manufacture, the former increasing also in number of establishments and the latter in the number of wage earners employed. For the industries reporting establishments having products valued at \$20,000 and over, the butter and the printing and publishing industries show increases in each item, while the flour-mill and gristmill industry decreased slightly in number of establishments and in average number of wage earners but increased in value of products and value added by manufacture.

Table 13 presents, for 1914, for all industries combined in each of the two cities having more than 10,000 inhabitants, statistics similar to those given in Table 11 for the state as a whole.

In the cities the same general condition prevails as that found in the state as a whole, namely, a greater proportion of the value of products and the value added by manufacture for establishments in the group of \$100,000 and over than in the other groups. In Fargo this class represented 55.6 per cent of the total value of products and 46 per cent of the total value added by manufacture for the city, and in Grand Forks the corresponding proportions were 65.7 and 59.4 per cent, respectively. In Fargo 28.9 per cent of the total number of establishments, 46.7 per cent of the wage

earners, and 35.5 per cent of the value of products are shown for the group "\$20,000 to \$100,000"; and in Grand Forks, this group forms 31.2 per cent of the total number of establishments, 45.5 per cent of the average number of wage earners, and 27.4 per cent of the total value of products for the city.

CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
		Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
FARGO.....	76	690	100.0	\$3,006,043	100.0	\$1,265,101	100.0
Less than \$5,000.....	23	15	2.2	54,721	1.8	42,102	3.3
\$5,000 to \$20,000.....	21	82	11.9	214,567	7.1	131,751	10.4
\$20,000 to \$100,000.....	22	322	46.7	1,064,408	35.5	509,743	40.3
\$100,000 to \$1,000,000.....	10	271	39.3	1,672,347	55.6	581,505	46.0
GRAND FORKS.....	32	343	100.0	1,815,669	100.0	822,617	100.0
Less than \$5,000.....	9	14	4.1	26,176	1.4	17,026	2.2
\$5,000 to \$20,000.....	9	38	11.1	97,502	5.4	54,727	6.7
\$20,000 to \$100,000.....	10	156	45.5	498,365	27.4	261,066	31.8
\$100,000 to \$1,000,000.....	4	135	39.4	1,193,626	65.7	488,358	59.4

Table 14 shows the size of establishments in 1914 as measured by the average number of wage earners employed. The figures given are for all industries combined, for seven of the more important industries, and for the two cities having more than 10,000 inhabitants.

Table 15 presents, for 1914, percentages based on the figures in Table 14, and for 1909, similar percentages for all industries combined and for individual industries in the state as a whole.

INDUSTRY AND CITY.	TOTAL.		ESTABLISHMENTS EMPLOYING—													
			No wage earners.		1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.	
			Estab-lish-ments.	Wage earners (average number).	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.
All industries .....	699	3,275	131	469	863	66	660	23	687	7	445	2	279	1	341	
Bread and other bakery products .....	58	205	11	39	78	7	59	.....	.....	1	68	.....	.....	.....	.....	
Brick .....	9	171	.....	1	4	6	79	1	28	1	60	.....	.....	.....	.....	
Butter .....	58	115	3	52	74	2	15	1	26	.....	.....	.....	.....	.....	.....	
Cars and general shop construction and repairs by steam-railroad companies .....	7	871	.....	.....	.....	.....	.....	1	40	3	211	2	270	1	341	
Confectionery .....	3	105	.....	.....	.....	.....	.....	3	105	.....	.....	.....	.....	.....	.....	
Flour-mill and gristmill products .....	59	424	3	37	90	12	107	6	172	1	55	.....	.....	.....	.....	
Printing and publishing .....	351	752	87	241	399	17	143	5	159	1	51	.....	.....	.....	.....	
All other industries .....	154	632	27	99	218	22	257	6	157	.....	.....	.....	.....	.....	.....	
Total for cities .....	108	1,033	16	46	116	27	292	17	506	2	119	.....	.....	.....	.....	
FARGO .....	76	690	15	29	82	19	193	12	347	1	68	.....	.....	.....	.....	
GRAND FORKS .....	32	343	1	17	34	8	99	5	159	1	51	.....	.....	.....	.....	

Of the 699 establishments reported for all industries combined in the state, 131, or 18.7 per cent, employed no wage earners. These establishments were small and as a rule the work was done by the proprietors, firm members, or persons classed as salaried employees. If wage earners were reported, the number was so small and the term of employment so short that in computing the average, as described in the "Explanation of

terms," the number was less than one person, and the establishment was classed as having "no wage earners." The small establishments—those employing from 1 to 5 wage earners—formed 67.1 per cent of the total for the state, and gave employment to 26.4 per cent of the total number of wage earners. The establishments employing 50 or fewer wage earners constituted 79.8 per cent of the total number of establish-

ments and gave employment to 67.6 per cent of the total number of wage earners. There were only 10 establishments in the state having more than 50 wage

earners and they gave employment to 1,065 wage earners, or 32.5 per cent of the total wage earners employed.

INDUSTRY AND CITY.	Cen- sus year.	PER CENT OF TOTAL AVERAGE NUM- BER OF WAGE EARNERS IN ESTAB- LISHMENTS EMPLOYING SPECIFIED NUMBER.						INDUSTRY AND CITY.	Cen- sus year.	PER CENT OF TOTAL AVERAGE NUM- BER OF WAGE EARNERS IN ESTAB- LISHMENTS EMPLOYING SPECIFIED NUMBER.					
		1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500			1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500
All industries.....	1914 1909	26.4 34.3	20.2 23.4	21.0 25.3	13.6 8.1	8.5 8.9	10.4	Flour-mill and gristmill products.....	1914 1909	21.2 26.7	25.2 32.2	40.6 29.2	13.0 12.0		
Bread and other bakery products....	1914 1909	38.0 63.0	28.8 15.8	21.2	33.2			Printing and publishing.....	1914 1909	53.1 54.7	19.0 19.3	21.1 26.0	6.8		
Brick.....	1914 1909	2.3 6.9	46.2 47.9	16.4 45.2	35.1			All other industries.....	1914 1909	34.5 39.7	40.7 37.8	24.8 22.5			
Butter.....	1914 1909	64.3 100.0	13.0	22.6				Total for cities.....	1914	11.2	28.3	49.0	11.5		
Cars and general shop construction and repairs by steam-railroad com- panies.	1914 1909			4.6 9.1	24.2 37.6	32.0 53.3	39.2	FARGO.....	1914	11.9	28.0	50.3	9.9		
Confectionery.....	1914 1909			100.0 80.6				GRAND FORKS.....	1914	9.9	28.9	46.4	14.9		

A comparison of the industries shown in this table brings out the fact that in 1914 a majority of the wage earners engaged in the manufacture of butter and in printing and publishing were in establishments that employed from 1 to 5 wage earners; while in the steam-railroad repair shops, the majority of the wage earners were in establishments where more than 100 were employed. In Fargo 50.3 per cent of the wage earners were in establishments employing from 21 to

50 wage earners and in Grand Forks 46.4 per cent were in this group.

**Engines and power.**—Table 16 shows, for 1914, 1909, and 1904, for all industries combined, the number and horsepower of engines or motors employed in generating power (including electric motors operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated by establishments reporting.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
				Amount.			Per cent distribution.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904
Primary power, total.....	1,036	749	290	15,062	13,196	9,873	100.0	100.0	100.0
Owned.....	438	442	290	11,124	12,004	9,586	73.9	91.0	97.1
Steam engines and turbines <sup>1</sup> .....	135	169	147	9,627	10,170	8,619	63.9	77.1	87.3
Internal-combustion engines.....	294	265	136	1,198	1,304	645	8.0	9.9	6.5
Water wheels, turbines, and motors.....	9	8	7	299	530	322	2.0	4.0	3.3
Rented.....	598	307	( <sup>2</sup> )	3,938	1,192	287	26.1	9.0	2.9
Electric.....	598	307	( <sup>2</sup> )	3,856	1,164	281	25.6	8.8	2.8
Other.....				82	28	6	0.5	0.2	0.1
Electric.....	660	355	14	4,800	1,698	477	100.0	100.0	100.0
Rented.....	598	307	( <sup>2</sup> )	3,856	1,164	281	80.3	68.6	58.9
Generated by establishments reporting.....	62	28	14	944	534	196	19.7	31.4	41.1

<sup>1</sup> Figures for horsepower include for 1909 and 1904 the amounts reported under the head of "other" owned power.

<sup>2</sup> Not reported.

This table shows that during the period from 1909 to 1914 the power of engines and other prime movers employed in the manufactures of the state increased 1,866 horsepower, or 14.1 per cent. This increase was due entirely to the increase in rented power, as each kind of owned power decreased. The use of rented power, now almost wholly electric, has greatly increased since 1904, when it represented only 2.9 per cent of the total primary power reported. In 1909 the amount of rented power had increased to 9 per cent, and in 1914, to 26.1 per cent of the total. The increase in the use of electric motors run by current generated within the same establishments, although considerable, has not kept pace with that in rented power. The

power of motors operated by current generated in the same establishments represented 41.1 per cent of the total electric power in 1904, but decreased to 19.7 per cent in 1914.

**Fuel.**—Closely related to the kind of power employed in manufactures is that of fuel consumed in generating this power or otherwise used in the manufacturing processes.

Table 17 gives, for 1914, the quantity of each kind of fuel used, for which data were obtained, for all industries combined and for selected industries in the state as a whole, and for all industries combined in each of the two cities.

Table 17	COAL.					INDUSTRY AND CITY.	COAL.				
	Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).	Coke (tons, 2,000 lbs.).	Oil, including gasoline (barrels.).	Gas (1,000 cubic feet).		Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).	Coke (tons, 2,000 lbs.).	Oil, including gasoline (barrels.).	Gas (1,000 cubic feet).
All industries.....	5,282	145,871	1,371	3,280	2,221	Gas, illuminating and heating.....	10	16,504	542	1,224	.....
Bread and other bakery products.....	303	1,437	219	23	403	Printing and publishing.....	707	1,912	45	782	1,598
Brick.....	2,800	12,147	.....	349	16	All other industries.....	226	2,333	565	210	294
Butter.....	174	3,704	.....	.....	.....	Total for cities.....	963	22,230	374	11	2,111
Cars and general shop construction and repairs by steam-railroad companies.....	.....	43,287	.....	6	.....	FARGO.....	70	12,542	336	11	1,799
Flour-mill and gristmill products.....	1,062	64,547	.....	686	.....	GRAND FORKS.....	893	9,688	38	.....	402

## SPECIAL STATISTICS.

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantities and cost of materials, the quantity and value of products, and other information for securing which no provision is made on the general schedule. Certain data of this character for three important industries in North Dakota are here presented, and also statistics for power laundries.

**Flour-mill and gristmill products.**—Table 18 gives the quantity and value of flour-mill and gristmill products for the last three census years.

Table 18	1914	1909	1904
Total value.....	\$12,029,905	\$11,685,116	\$6,463,228
Wheat flour:			
Barrels.....	2,165,078	1,825,920	1,223,219
Value.....	\$9,864,400	\$9,034,418	\$5,513,554
Rye flour:			
Barrels.....	844	153	50
Value.....	\$4,037	\$581	\$300
Corn meal and corn flour:			
Barrels.....	445	1,626	.....
Value.....	\$2,129	\$5,124	.....
Bran and middlings:			
Tons.....	80,415	.....	.....
Value.....	\$1,594,885	106,932	64,124
Feed and offal:			
Tons.....	13,575	\$2,360,171	\$945,076
Value.....	\$463,155	.....	.....
Breakfast foods:			
Pounds.....	363,761	.....	.....
Value.....	\$18,480	.....	.....
All other cereal products, value.....	\$74,619	\$266,213	\$417
All other products, value.....	\$8,200	\$18,609	\$3,881

In 1914 there were 59 establishments engaged in this industry, a decrease of 25 as compared with 1909. Wheat flour is the principal product and shows substantial gains during the two five-year periods. The output of wheat increased 339,158 barrels, or 18.6 per cent, from 1909 to 1914, and 602,701, or 49.3 per cent, from 1904 to 1909. Measured by value of products, wheat flour constituted 82 per cent of the total of the flour-mill and gristmill industry for the state in 1914, 77.3 per cent in 1909, and 85.3 per cent in 1904. Bran and middlings and feed and offal were the next most important products, but represented only 17.1 per cent of the total value of the products of the industry in 1914.

The equipment of the mills reported in 1914 consisted of 380 stands of rolls, 5 runs of stone, and 23 attrition mills. One establishment manufactured barrels and four manufactured sacks.

**Printing and publishing.**—Table 19 shows the number and aggregate circulation per issue for the different classes of newspaper and periodical publications for the census years 1914, 1909, and 1904.

Table 19	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1914	1909	1904	1914	1909	1904
Total.....	341	333	235	457,595	372,642	245,711
Daily.....	10	12	9	74,660	59,954	31,008
Sunday.....	2	4	2			
Semiweekly.....	2	1	3	267,275	200,288	175,513
Weekly.....	315	310	212			
Monthly.....	10	5	6	115,660	31,500	19,630
All other classes.....	2	1	3			

For the five-year period from 1909 to 1914 the total number of publications increased by 8 and the aggregate circulation per issue increased 84,953, or 22.8 per cent. Weekly and semiweekly publications had a circulation of 267,275, an increase of 6,987, or 2.7 per cent. Of the 341 newspapers and periodicals published in 1914, 315, or 92.4 per cent, were published weekly. There was a decrease of 2 each, in the dailies and Sundays from 1909 to 1914, and during the same period the circulation of both decreased. There was an increase both in the number and circulation of the monthly publications. The circulation of these are combined with 2 bimonthly publications in "all other," to avoid disclosure. The increase in circulation of this group was 84,160, or more than double, and it was practically limited to the monthly publications. All of the publications were in the English language, except 17, all weeklies, 11 of which were in English and German, 3 in German, and 3 in Norwegian, with a combined circulation of 35,273.

**Butter.**—Table 20 gives the quantity and value of products for 1914, 1909, and 1904.

There has been a steady increase in the amount of butter manufactured in the state at each successive census, but a slight decrease in the number of establishments engaged primarily in the industry. During the decade the output of butter increased from 3,013,151 pounds, valued at \$556,408 in 1904, to 5,814,240 pounds, valued at \$1,506,492 in 1914, a gain of 93 per cent in quantity and 170.8 per cent in

value. Of the total quantity of butter manufactured in 1914, 77.7 per cent was packed solid and 22.3 per cent was put up in prints or rolls; the packed butter greatly exceeded that reported as prints or rolls at each census, in both quantity and value.

Table 20	1914	1909	1904
Total value.....	\$1,739,692	\$1,029,135	\$562,481
Butter:			
Packed solid—			
Pounds.....	4,518,736	2,873,519	2,657,328
Value.....	\$1,161,820	\$756,158	\$485,758
Prints or rolls—			
Pounds.....	1,295,504	810,160	355,823
Value.....	\$344,672	\$225,197	\$70,650
Cream sold:			
Pounds.....	307,547	3,348	120
Value.....	\$30,941	\$496	\$12
All other products, value.....	<sup>1</sup> \$202,259	\$47,284	\$6,061

<sup>1</sup> Includes ice cream to the value of \$134,805.

**Laundries.**—Statistics for power laundries are not included in the general tables or in the totals for manufacturing industries. Table 21, however, summarizes these statistics for 1914 and 1909.

In 1914 North Dakota ranked thirty-ninth among the states in amount received for work done and forty-

second in number of persons engaged in the industry. In 1909 it ranked thirty-seventh and fortieth, respectively. Establishments owned by individuals reported \$186,808, or 31.5 per cent of the amount received for work done; those owned by corporations, \$229,293, or 38.7 per cent; and those under other forms of ownership, \$176,742, or 29.8 per cent.

Table 21	POWER LAUNDRIES.		
	Number or amount.		Per cent of increase, <sup>1</sup> 1909-1914.
	1914	1909	
Number of establishments.....	30	34	.....
Persons engaged.....	478	503	—5.0
Proprietors and firm members.....	31	39	.....
Salaried employees.....	38	30	.....
Wage earners (average number).....	409	434	—5.8
Primary horsepower.....	725	606	19.6
Capital.....	\$552,458	\$444,817	24.2
Salaries and wages.....	242,805	208,492	16.4
Salaries.....	34,852	20,366	71.1
Wages.....	207,953	188,126	10.5
Paid for contract work.....	2,155	5,466	—60.6
Rent and taxes.....	13,884	13,562	2.4
Cost of materials.....	142,804	102,412	39.4
Amount received for work done.....	592,843	548,175	8.1

<sup>1</sup> A minus sign (—) denotes decrease; percentages are omitted where base is less than 100.

### GENERAL TABLES.

Table 22 gives, for 1914, 1909, and 1904, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products, for selected industries in the state; and for the cities having more than 10,000 inhabitants, similar data for all industries combined.

Table 23 presents, for 1914, statistics in detail for each industry in the state that can be shown without the disclosure of individual operations, and for the cities having more than 10,000 inhabitants, for all industries combined.

TABLE 22.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost.	Value	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost	Value
						of ma- terials.	of prod- ucts.							of ma- terials.	of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.															
All industries.....	1914	699	3,275	15,062	\$2,416	\$14,484	\$21,147	Flour-mill and gristmill products.	1914	59	424	7,810	\$330	\$10,072	\$12,030
	1909	752	2,789	13,196	1,787	13,674	19,138		1909	84	435	8,907	283	10,055	11,685
	1904	507	1,755	9,873	1,031	7,096	10,218		1904	56	312	5,770	200	5,463	6,463
Bread and other bakery products.	1914	58	205	226	121	445	810	Gas, illuminating and heating.	1914	9	52	65	29	109	273
	1909	67	146	88	84	346	601		1909	6	28	52	13	78	199
	1904	39	86	14	44	184	311		1904	4	10	1,825	6	34	102
Brick.....	1914	9	171	1,728	101	59	270	Mineral and soda waters..	1914	24	56	149	35	121	282
	1909	13	188	608	88	73	287		1909	26	63	103	38	133	304
	1904	14	117	407	60	34	170		1904	16	36	62	21	44	156
Butter.....	1914	58	115	669	93	1,464	1,740	Printing and publishing..	1914	351	752	2,212	547	455	2,220
	1909	68	62	854	46	891	1,029		1909	330	788	948	533	440	1,910
	1904	60	55	618	38	478	562		1904	229	515	392	313	237	1,110
Cars and general shop construction and repairs by steam-railroad companies.	1914	7	871	718	746	412	1,235	Saddlery and harness.....	1914	10	88	57	63	274	422
	1909	5	463	332	340	300	680		1909	19	98	93	53	462	683
	1904	3	146	98	102	81	202		1904	3	48	18	28	86	151
Confectionery.....	1914	3	105	72	50	302	443	All other industries.....	1914	102	371	1,284	250	564	1,101
	1909	3	98	60	38	298	455		1909	123	357	1,055	230	471	1,047
	1904	6	40	8	26	43	91		1904	77	390	661	193	412	900
Copper, tin, and sheet-iron work.	1914	9	65	72	51	207	321								
	1909	8	63	36	41	127	258								
	1904	6	40	8	26	43	91								

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

FARGO.....	1914	76	690	1,275	\$447	\$1,741	\$3,006	GRAND FORKS.....	1914	32	343	913	\$288	\$993	\$1,816
	1909	61	510	789	325	1,410	2,477		1909	38	350	773	218	1,251	1,910





# MANUFACTURES—NORTH DAKOTA.

15

AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

## THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$406,962	\$479,003	\$2,416,235	\$72,009	\$116,463	\$96,865	\$13,957,277	\$527,038	\$21,147,431	\$6,663,116	15,062	9,627	1,280	299	3,856	944	1
720	11,241	41	250	27,678	175	48,245	20,392	47	40	2	5	2	3	4	5	6
1,872	8,376	203	564	13,204	1,463	36,651	21,984	33	31	2	2	3	4	5	6	7
13,740	18,280	121,183	790	14,622	5,777	422,776	21,904	810,465	365,785	226	19	207	4	5	6	7
19,800	4,210	101,446	1,222	1,725	3,918	12,251	46,708	270,199	211,240	1,728	1,025	69	633	145	332	8
12,389	14,123	93,368	1,222	1,725	3,379	1,444,369	20,108	1,739,692	275,215	669	404	100	20	19	75	332
45,037	29,585	745,900	1,222	1,725	516	9,000	1,187	31,900	21,713	25	6	19	75	332	8	9
11,488	20,672	52,195	2,280	2,041	318,590	3,177	474,434	152,667	90	50	10	30	32	10	11	12
11,488	20,672	49,887	1,380	1,886	299,513	2,789	442,914	140,612	72	50	10	22	32	11	12	13
10,600	10,668	2,308	900	155	19,077	3,888	31,520	12,055	18	18	4	68	508	14	15	16
111,224	220,676	50,916	3,060	1,521	205,440	1,685	321,018	113,893	72	7,810	6,798	286	270	456	508	17
7,950	5,246	61,478	150	2,482	1,887	76,511	5,242	215,521	133,768	184	20	48	116	14	15	16
9,371	9,286	28,591	4,950	220	8,939	26,266	83,087	273,022	163,639	65	40	25	127	5	6	7
15,420	4,586	52,773	194	295	2,451	163,044	3,831	249,144	82,269	289	147	15	127	5	6	7
3,000	1,800	16,530	288	974	49,056	668	92,466	42,742	19	19	4	15	101	2	3	4
13,521	9,860	35,428	1,255	5,320	1,868	116,234	4,497	282,300	161,569	149	35	13	101	2	3	4
23,373	23,136	94,932	2,259	16,273	2,778	133,968	4,225	415,146	276,953	1,158	5	596	7	1,153	443	1
72,367	84,286	451,678	54,387	50,303	16,954	283,364	33,449	1,805,071	1,488,253	1,054	8	596	7	443	1	2
4,980	10,808	22,349	2,040	655	16,134	891	89,144	72,119	54	54	2	2	52	1	2	3
65,937	67,694	429,329	10,691	46,943	16,092	267,166	32,558	1,603,954	1,304,230	1,000	8	594	7	391	1	2
1,450	5,784	43,696	1,320	207	64	272,170	1,389	421,973	148,414	57	7	50	24	25	26	27
18,080	7,940	62,715	3,447	3,240	4,991	28,334	611	69,904	41,019	57	7	50	24	25	26	27
960	1,352	17,673	1,380	4,991	28,334	611	69,904	41,019	57	57	7	50	24	25	26	27
16,770	5,977	67,627	6,120	9,343	2,830	158,301	6,463	325,144	160,380	609	456	2	211	211	211	211

## CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

\$101,291	\$110,383	\$447,155	\$22,085	\$30,996	\$21,613	\$1,655,913	\$85,029	\$3,006,043	\$1,265,101	1,275	275	16	984	4	39	1
48,170	69,538	288,150	1,124	12,112	13,485	924,286	68,766	1,815,669	822,617	913	499	82	332	39	39	2

<sup>3</sup> No figures given for reasons stated under "Explanation of terms."

<sup>4</sup> Same number reported for one or more other months.

Hand stamps.....	1	Optical goods.....	1	Sand-lime brick.....	1
Hosiery and knit goods.....	1	Patent medicines and compounds.....	1	Tools, not elsewhere specified.....	1
Looking-glass and picture frames.....	1	Perfumery and cosmetics.....	1	Trunks and valises.....	2
Mattresses and spring beds.....	1	Pickles and sauces.....	1		

# DEPARTMENT OF COMMERCE

## BUREAU OF THE CENSUS

SAM. L. ROGERS, DIRECTOR

# CENSUS OF MANUFACTURES: 1914

## OHIO

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

### CONTENTS

	Page		Page
Explanation of terms.....	2	General statistics—Continued.	
General statistics.....	3	Engines and power.....	32
General character of the state.....	3	Fuel.....	33
Importance and growth of manufactures.....	3	Special statistics.....	34
Iron and steel.....	6	Iron and steel.....	34
Foundry and machine-shop products.....	7	Automobiles, including bodies and parts.....	36
Rubber goods.....	7	Flour-mill and gristmill products.....	36
Automobiles, including bodies and parts.....	7	Slaughtering and meat packing.....	37
Slaughtering and meat packing.....	7	Printing and publishing.....	37
Printing and publishing.....	7	Brick, tile, pottery, and other clay products.....	38
Flour-mill and gristmill products.....	7	Paper and wood pulp.....	39
Brick, tile, pottery, and other clay products.....	8	Paint and varnish.....	40
Electrical machinery, apparatus, and supplies.....	8	Butter, cheese, and condensed milk.....	40
Boots and shoes, including cut stock and findings.....	8	Glass.....	40
Cars and general shop construction and repairs by steam-railroad companies.....	8	Agricultural implements.....	41
Liquors, malt.....	8	Carriages and wagons and materials.....	41
Lumber and timber products.....	8	Leather, tanned, curried, and finished.....	42
Tobacco manufactures.....	8	Chemicals.....	42
Persons engaged in manufacturing industries.....	8	Petroleum, refining.....	42
Wage earners employed, by months.....	12	Hosiery and knit goods.....	43
Prevailing hours of labor.....	14	Boots and shoes.....	43
Location of establishments.....	16	Laundries.....	44
Cleveland metropolitan district.....	19	General tables:	
Cincinnati metropolitan district.....	21	Table 54.—Comparative summary for 1914, 1909, and 1904.....	45
Character of ownership.....	24	Table 55.—Detail statement for the state and for cities of 50,000 inhabitants or more, by industries, and for cities of 10,000 to 50,000 inhabitants: 1914.....	54
Size of establishments.....	25		



## EXPLANATION OF TERMS.

**Scope of census.**—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention should be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or whose products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

**Period covered.**—The returns relate to the calendar year 1914, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

**The establishment.**—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment.

**Classification by industries.**—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value. As a rule, the same designation is used for the industry wherever it appears, although all of the products indicated by this designation were not manufactured in the state or city for which these statistics are presented. In some instances the wording is changed so as to more correctly describe the products represented. For a number of industries subclasses are shown which indicate more definitely the kind of products.

**Selected industries.**—The general tables at the end of this bulletin give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

**Comparisons with previous censuses.**—Owing to changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. At the census of 1909 the figures for kindred industries were combined. This practice, as a rule, has been followed in compiling the statistics of 1914 when placed in comparison with those for 1909 and prior years. The comparative summary for 1914, 1909, and 1904, therefore, does not show separately all the industries given for 1914 in the detailed statement for the state.

**Influence of increased prices.**—In comparing figures for cost of materials, value of products, and value added by manufacture in 1914 and 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

**Persons engaged in the industry.**—The following general classes of persons engaged in the manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. In comparative tables covering the census of 1904 it is of course necessary to group the figures according to the classification that was employed at the earlier censuses.

The number of persons engaged in each industry, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date was not a representative day an earlier date was chosen.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained approximates the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined for any state, because, in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation. This total, however, is shown for the different cities, because the limited area and greater regularity of employment largely overcame the objection incident to its publication for the separate states or the United States.

(2)

In particular, totals by sex and age for the wage earners reported for the representative day for all industries combined would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for a given state as a whole, the per cent distribution by sex and age of the wage earners in each industry for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year in that industry to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added to give the average distribution for each state as a whole and for the entire country.

**Salaries and wages.**—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and represent the approximate number who would be required to perform the work in any industry if all were continuously employed during the year, whereas the actual number to whom the total wages were paid would be larger.

**Prevailing hours of labor.**—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

**Capital.**—The instructions on the schedule for securing data relating to capital were as follows:

"The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises."

These instructions were identical with those employed at the census of 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating very general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

**Materials.**—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

**Rent and taxes.**—The taxes include internal revenue, corporation income tax, and state, county, and local taxes. In some instances the amount of the corporation tax for 1914 had not been ascertained when the report was prepared and the amount paid for 1913 was therefore given.

**Value of products.**—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

**Value added by manufacture.**—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

**Cost of manufacture and profits.**—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of interest or depreciation, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

**Primary horsepower.**—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use, since in most cases an engine or motor is not required to deliver continuously its full rated horsepower.

**Fuel.**—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.

# OHIO.

By W. W. SAWYER.

## GENERAL STATISTICS.

**General character of the state.**—Ohio was admitted to the Union as a state in 1803. With a gross area of 41,040 square miles, of which 40,740 represents land surface, it ranks thirty-fifth in size among the states. Its inhabitants in 1900 numbered 4,157,545, and in 1910, 4,767,121, and its estimated population in 1914 was 5,026,898. In total population Ohio ranked fourth among the states in 1910 and in density of population it ranked eighth, with 117 inhabitants per square mile, the corresponding figure for 1900 being 102.1.

The urban population of the state in 1910—that is, the population residing in cities and towns of 2,500 inhabitants or more—was 2,665,143, or 55.9 per cent of the total, as against 48.1 per cent in 1900. There were in the state in 1914, 9 cities having an estimated population of more than 50,000, as follows: Cleveland, 639,431; Cincinnati, 402,175; Columbus, 204,567; Toledo, 184,126; Dayton, 123,794; Youngstown, 93,341; Akron, 80,291; Canton, 57,426; and Springfield, 50,058. There were also 34 cities with an estimated population of 10,000, but less than 50,000. These 43 cities, whose aggregate population in 1914 formed 49.1 per cent of the estimated population of the state, reported 77.4 per cent of the state's manufactured products.

The industrial importance of Ohio is due in great measure to its natural resources. The value of the output of the mines, quarries, and wells, in 1914, as reported by the United States Geological Survey, was \$101,661,384, the most important being bituminous coal, \$21,250,642; natural gas, \$14,667,790; and petroleum, \$13,372,729. The state ranked fourth in 1914 in total value of mineral products, first in output of clay products, fifth in quantity and fourth in value of coal, fourth in quantity and third in value of natural gas, and seventh in output of petroleum. Furthermore, the splendid transportation facilities, both by rail and water, can not be overestimated. Lake Erie and the Erie Canal make a direct outlet to the Atlantic seaboard, while the western Great Lakes and the Sault Ste. Marie Canal furnish a water route to the Northwestern states. The Ohio River, which forms 436 miles of the southern boundary of the state, furnishes communication with Pennsylvania and the states of the Mississippi Valley. Two canals, one from Cleveland to Portsmouth and the other from Toledo to Cincinnati, connect Lake Erie with the Ohio River. The steam-railway mileage in 1914 was 9,148 and the electric-railway mileage in 1912 (the latest year for which statistics are available) was 3,852. Ohio is

the sixth state in the mileage of steam railways and third in the mileage of electric railways.

The total value of all farm crops in 1909 was \$230,337,981, the most important products being cereals, \$137,907,934; and hay and forage, \$42,357,364.

**Importance and growth of manufactures.**—The value of the state's manufactured products in 1914 was \$1,782,808,279, the average number of wage earners employed in its manufacturing industries was 510,435, and the value added by manufacture, which is the best measure of the importance of manufacturing industries, amounted to \$762,026,264. In 1914 Ohio ranked fourth among the states in all three items, and fifth in 1909. The value of manufactured products in Ohio in 1914 represented 7.4 per cent of the total for the United States. The corresponding proportions for 1909 and 1904 were 7 per cent and 6.5 per cent, respectively.

The statistics in this report do not include the manufacture of clothing, bedding, and other articles at the National Home for Disabled Volunteer Soldiers, located near Dayton, in Montgomery County. In 1914 this establishment employed an average of 172 wage earners and turned out products valued at \$152,782.

Table 1 summarizes the more important data relative to all classes of manufactures combined in the state of Ohio, for the censuses of 1914, 1909, 1904, and 1899, and gives the percentages of increase from census to census.

This table brings out the fact that the manufacturing industries of Ohio show a lower rate of development during the period 1909–1914 than during the preceding five-year period. There was an increase from 1909 to 1914, however, in every item, except proprietors and firm members and amount paid for contract work.

The decrease of 1,095, or 7.4 per cent, in the number of proprietors and firm members is probably due to the fact that some establishments under individual or firm ownership in 1909 were incorporated during the period between the censuses. The number of salaried employees increased by 34.9 per cent during the five-year period. The decrease of 19.1 per cent in the amount paid for contract work is no indication of a depression in any industry, because the expenditure for such work depends upon the methods used and not upon the magnitude of the operations.

The percentages of increase for average number of wage earners, value of products, and value added by manufacture for Ohio for the period 1909–1914 were 14.2, 24, and 24.2, respectively, whereas the corre-

## MANUFACTURES—OHIO.

sponding percentages for the United States were only 6.4, 17.3, and 15.8, respectively. Thus the state's increase in wage earners was more than twice as great

proportionally as that for the United States as a whole, and its increases in value of products and value added by manufacture were about one-third greater.

Table 1

	MANUFACTURING INDUSTRIES.				PER CENT OF INCREASE. <sup>1</sup>		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	15,658	15,138	13,785	13,868	3.4	9.8	-0.6
Persons engaged.....	606,807	523,004	417,946	( <sup>2</sup> )	16.0	25.1	.....
Proprietors and firm members.....	13,024	14,719	13,657	( <sup>2</sup> )	-7.4	7.8	.....
Salaried employees.....	82,748	61,351	39,991	28,109	34.9	53.4	42.3
Wage earners (average number).....	510,435	446,934	364,298	308,109	14.2	22.7	18.2
Primary horsepower.....	2,002,780	1,583,155	1,116,932	783,665	26.5	41.7	42.5
Capital.....	\$1,677,551,633	\$1,300,732,732	\$856,988,830	\$570,908,968	29.0	51.8	50.1
Salaries and wages.....	424,188,649	317,597,403	225,864,293	164,579,020	33.6	40.6	37.2
Salaries.....	105,264,836	72,147,499	43,434,868	28,151,441	45.9	66.1	54.3
Wages.....	317,923,813	245,449,904	182,429,425	136,427,579	29.5	34.5	33.7
Paid for contract work.....	5,437,438	6,717,474	5,377,027	( <sup>2</sup> )	-10.1	24.9	.....
Rent and taxes (including internal revenue).....	37,432,863	29,413,298	3,016,126	( <sup>2</sup> )	27.3	.....	.....
Cost of materials.....	1,020,732,015	824,201,947	527,036,585	409,302,501	23.8	56.2	28.9
Value of products.....	1,782,808,279	1,437,935,817	960,811,857	748,670,855	24.0	49.7	28.3
Value added by manufacture (value of products less cost of materials).....	762,026,264	613,733,870	433,175,272	339,368,354	21.2	41.7	27.6

<sup>1</sup> A minus sign (-) denotes decrease.

<sup>2</sup> Figures not available.

<sup>3</sup> Exclusive of internal revenue.

Table 2 shows the relative importance of the leading manufacturing industries in 1914, and gives percentages of increase for the three five-year periods from 1899 to 1914.

Table 2

Table 2	CENSUS OF 1914.							PER CENT OF INCREASE. <sup>1</sup>									
	INDUSTRY.	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.		
			Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
All industries.....	15,658	510,435	100.0	\$1,782,808,279	100.0	\$762,026,264	100.0	14.2	22.7	18.2	24.0	49.7	23.3	24.2	41.7	27.6	
Iron and steel, steel works and rolling mills.....	70	46,397	9.1	205,023,391	11.5	65,346,900	8.6	20.2	39.0	0.4	3.7	76.6	13.0	11.6	73.3	9.8	
Foundry and machine-shop products.....	1,379	73,103	14.3	178,855,069	10.0	101,352,054	13.3	12.8	22.3	5.7	22.6	40.6	17.3	24.7	37.4	19.9	
Rubber goods, not elsewhere specified.....	54	21,705	4.3	109,658,605	6.2	50,921,129	6.7	109.1	115.6	37.4	103.4	237.7	117.8	137.2	274.2	123.0	
Automobiles, including bodies and parts.....	102	18,752	3.7	85,710,585	4.8	30,380,088	4.0	54.6	345.6	3,065.1	120.7	510.9	4,284.8	49.5	434.0	4,376.5	
Iron and steel, blast furnaces.....	33	5,786	1.1	72,969,368	4.1	12,230,844	1.6	-20.7	34.2	-10.0	-12.8	104.8	1.2	-19.9	82.2	-50.2	
Slaughtering and meat packing.....	169	3,619	0.7	66,674,379	3.7	6,993,279	0.9	17.3	33.3	29.8	31.2	74.3	40.4	8.3	68.0	30.2	
Printing and publishing.....	1,783	18,070	3.5	55,068,924	3.1	38,538,944	5.1	14.7	13.7	4.9	33.5	33.0	31.4	29.5	31.4	34.3	
Flour-mill and gristmill products.....	649	2,363	0.4	45,171,200	2.5	6,213,814	0.8	-8.6	-4.3	15.7	-6.1	17.7	16.5	-7.8	28.9	2.7	
Brick, tile, pottery, and other clay products.....	549	27,334	5.4	38,667,374	2.2	26,491,419	3.5	14.0	6.0	31.4	26.6	18.9	110.6	21.2	13.7	110.0	
Electrical machinery, apparatus, and supplies.....	119	12,695	2.5	36,120,978	2.0	18,638,730	2.4	57.3	57.9	35.5	92.4	70.4	69.4	61.4	82.8	99.6	
Boots and shoes, including cutstock and findings.....	73	14,674	2.9	33,641,705	1.9	13,758,680	1.8	-8.4	14.2	9.9	6.6	22.6	41.0	8.5	18.0	54.9	
Cars and general shop construction and repairs by steam-railroad companies.....	88	21,639	4.2	33,286,205	1.9	17,232,484	2.3	4.4	21.7	47.6	16.0	33.9	65.1	19.5	28.8	59.8	
Bread and other bakery products.....	1,634	7,665	1.5	30,560,881	1.7	13,265,708	1.7	28.3	12.8	50.5	32.8	47.1	58.7	42.0	41.9	48.6	
Liquors, malt.....	101	5,340	1.0	31,990,274	1.8	22,799,792	3.0	22.6	15.5	11.2	26.3	17.2	19.0	21.5	19.8	12.2	
Lumber and timber products.....	1,188	11,921	2.3	31,852,694	1.8	13,535,983	1.8	-11.4	-0.8	-17.8	-7.9	5.1	0.3	-5.4	-3.7	-3.2	
Tobacco manufactures.....	961	13,282	2.6	28,467,079	1.6	16,550,307	2.2	5.2	13.0	10.3	-1.5	41.1	20.6	-1.7	29.6	14.4	
Clothing, men's, including shirts.....	257	10,758	2.1	27,621,829	1.5	13,865,495	1.8	8.1	38.5	0.8	11.1	28.5	11.7	16.0	27.0	20.0	
Food preparations, not elsewhere specified.....	76	1,523	0.3	27,346,187	1.5	7,311,430	1.0	49.3	16.7	20.5	152.3	37.9	9.7	185.0	72.1	-17.8	
Copper, tin, and sheet-iron products.....	238	7,448	1.4	25,059,351	1.4	10,609,552	1.4	12.9	66.2	48.5	31.3	102.7	75.1	42.1	83.3	87.6	
Paper and wood pulp.....	48	5,430	1.1	23,284,192	1.3	7,174,918	0.9	16.2	20.3	22.0	37.2	54.8	67.5	18.3	26.2	73.3	
Clothing, women's.....	170	9,775	1.9	22,881,753	1.3	10,791,914	1.4	10.5	38.6	32.4	17.4	52.2	64.7	17.3	52.5	81.6	
Stoves and furnaces, including gas and oil stoves.....	105	8,575	1.7	19,981,599	1.1	11,566,412	1.5	17.9	11.8	.....	30.1	50.7	.....	27.7	46.4	.....	
Paint and varnish.....	95	2,107	0.4	19,326,576	1.1	7,987,354	1.0	37.3	38.2	31.9	41.9	59.6	27.2	58.3	88.7	3.3	
Butter, cheese, and condensed milk.....	286	1,480	0.3	19,325,977	1.1	3,357,766	0.4	38.7	118.7	25.4	99.4	111.0	20.6	67.5	132.1	14.0	
Glass.....	39	10,997	2.2	19,191,342	1.1	12,145,665	1.6	8.2	29.5	72.5	33.7	59.1	98.5	25.6	56.2	87.9	
Agricultural implements.....	59	5,464	1.1	17,484,615	1.0	9,674,830	1.3	-8.9	6.0	-17.4	21.1	12.0	-7.8	19.1	12.8	-9.0	
Furniture and refrigerators.....	213	7,831	1.5	16,687,466	0.9	9,258,295	1.2	-4.9	-5.1	29.0	2.6	17.6	45.3	2.7	8.9	51.3	
Carriages and wagons and materials.....	341	5,997	1.2	16,192,449	0.9	7,631,487	1.0	-32.0	-20.1	-5.4	-26.2	-8.6	5.3	-27.6	-5.5	4.9	
Coffee and spice, roasting and grinding.....	35	822	0.2	13,312,493	0.7	3,128,109	0.4	7.9	28.7	-12.7	18.6	12.7	70.2	6.1	26.4	104.4	
Cars, steam-railroad, not including operations of railroad companies.....	5	2,885	0.6	11,795,726	0.7	3,237,432	0.4	26.4	10.5	14.4	82.9	16.5	40.5	43.5	3.4	89.7	
Leather, tanned, curried, and finished.....	28	1,605	0.3	11,627,916	0.7	3,121,663	0.4	-14.8	17.0	16.3	14.8	55.5	25.7	29.7	17.4	45.7	
Chemicals.....	29	2,017	0.4	11,388,140	0.6	4,662,147	0.6	73.2	10.4	68.3	47.1	68.7	28.4	55.7	88.7	6.4	
Petroleum, refining.....	7	1,519	0.3	11,169,189	0.6	1,244,744	0.2	-8.4	-12.7	88.5	3.9	-1.8	30.4	-52.3	-20.6	48.1	
Tin plate and terneplate.....	7	953	0.2	10,826,098	0.6	1,383,355	0.2	41.0	.....	.....	37.2	.....	.....	88.4	.....	.....	
Liquors, distilled.....	18	332	0.1	10,683,562	0.6	8,695,341	1.1	-11.2	-40.4	87.2	-11.0	-24.8	28.4	-8.4	-24.4	14.2	
Confectionery.....	132	3,149	0.6	10,133,602	0.6	4,053,093	0.5	26.3	42.5	29.0	38.7	55.1	23.2	25.9	31.9	34.0	
Iron and steel, wrought pipe.....	5	2,285	0.4	9,367,581	0.5	3,215,372	0.4	111.4	63.8	.....	174.1	30.5	.....	252.7	80.7	.....	
Canning and preserving.....	135	2,507	0.5	8,961,383	0.5	3,054,175	0.4	24.8	-6.3	9.3	92.1	3.8	38.3	96.0	-13.0	36.0	

<sup>1</sup> Percentages are based on figures in Table 54; a minus sign (-) denotes decrease; percentages are omitted where base is less than 100, or where comparable figures can not be given.

## MANUFACTURES—OHIO.

5

Table 2—Continued.

INDUSTRY.	CENSUS OF 1914.						PER CENT OF INCREASE. <sup>1</sup>									
	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.		
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
Hosiery and knit goods.....	38	3,411	0.7	\$8,654,103	0.5	\$3,621,578	0.5	8.3	26.5	75.4	34.5	60.9	152.2	40.2	41.9	134.8
Paper goods, not elsewhere specified.	29	2,269	0.4	8,148,155	0.5	3,950,785	0.5	11.2	-0.4	175.4	29.2	58.7	47.6	37.5	34.4	63.4
Brass, bronze, and copper products..	84	2,277	0.4	7,843,092	0.4	3,653,547	0.5	2.0	50.3	12.9	19.3	96.4	46.0	20.2	68.6	43.7
Patent medicines and compounds and druggists' preparations.....	252	1,032	0.2	7,734,181	0.4	4,715,814	0.6	14.0	-13.5	20.4	32.0	-20.5	52.2	18.8	-24.4	54.6
Fertilizers.....	24	1,005	0.2	7,245,998	0.4	2,619,304	0.3	19.5	71.6	22.5	63.4	93.8	38.1	37.8	110.4	41.1
Iron and steel forgings, not made in steel works or rolling mills.....	29	2,308	0.5	6,752,467	0.4	2,815,031	0.4	15.3	45.3	.....	67.0	42.3	.....	54.4	20.2	.....
Cutlery and tools, not elsewhere specified.....	81	3,199	0.6	6,611,697	0.4	4,650,899	0.6	13.4	14.3	55.5	31.3	41.2	46.1	37.4	46.5	47.1
Leather goods.....	187	1,743	0.3	5,717,732	0.3	2,244,835	0.3	-7.8	-21.6	2.9	15.8	-9.3	19.4	7.9	-17.2	40.4
Marble and stone work.....	213	2,523	0.5	5,263,992	0.3	3,214,875	0.4	25.4	-33.7	44.7	36.8	-20.9	59.0	34.1	-23.4	62.5
Gas and electric fixtures and lamps and reflectors.....	52	1,832	0.4	4,899,095	0.3	2,299,426	0.3	27.5	117.1	-7.4	37.5	177.5	22.8	28.7	123.2	27.6
Shipbuilding, including boat building.....	29	2,879	0.6	4,716,787	0.3	2,808,207	0.4	-10.0	.....	.....	-16.9	.....	.....	-12.6	.....	.....
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works and rolling mills.....	15	2,365	0.5	4,651,422	0.3	2,049,698	0.3	-15.4	20.0	.....	-25.7	49.1	.....	-27.7	59.0	.....
Sewing machines and attachments..	3	1,925	0.4	4,508,758	0.3	1,901,461	0.2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Safes and vaults.....	10	1,760	0.3	4,337,430	0.2	2,854,552	0.4	-12.6	-6.5	62.2	21.0	12.1	103.3	-14.2	16.8	121.6
Ice cream.....	160	816	0.2	4,208,066	0.2	1,925,935	0.3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boxes, fancy and paper.....	49	2,456	0.5	4,060,322	0.2	1,973,707	0.3	-2.9	45.2	18.2	11.7	70.4	51.5	15.8	60.6	34.6
Oil, linseed.....	3	150	( <sup>2</sup> )	3,957,939	0.2	315,908	( <sup>2</sup> )	-29.2	200.0	-51.7	9.1	51.1	-23.0	-42.1	106.0	17.3
Cooperage and wooden goods, not elsewhere specified.....	95	1,516	0.3	3,945,968	0.2	1,399,245	0.2	-8.8	-3.5	-4.3	12.2	-1.2	36.3	7.6	-18.3	26.5
Roofing materials.....	18	715	0.1	3,905,812	0.2	1,536,715	0.2	67.1	67.8	.....	0.2	23.9	.....	110.9	2.0	.....
Cars, electric-railroad, not including operations of railroad companies..	4	916	0.2	3,594,163	0.2	1,304,833	0.2	24.8	-4.1	178.2	83.8	6.9	239.8	51.6	13.4	147.2
Signs and advertising novelties.....	50	1,372	0.3	3,551,045	0.2	1,807,190	0.2	25.2	.....	.....	36.7	.....	.....	9.1	.....	.....
Musical instruments, pianos and organs and materials.....	27	1,745	0.3	3,544,686	0.2	1,871,769	0.2	-5.2	-16.7	186.6	-9.7	6.6	153.9	-6.6	-2.7	177.9
Paving materials.....	66	1,957	0.4	3,507,253	0.2	2,784,008	0.4	3,394.6	.....	.....	1,570.8	.....	.....	1,868.0	.....	.....
Wirework, including wire rope and cable.....	43	810	0.2	3,434,551	0.2	1,267,406	0.2	-44.3	5.5	.....	-5.1	43.8	.....	-30.1	46.3	.....
Mattresses and spring beds.....	43	934	0.2	3,426,908	0.2	1,420,362	0.2	-2.8	44.9	50.3	3.6	44.0	135.5	-12.1	79.8	128.3
Furnishing goods, men's.....	40	2,368	0.5	3,296,867	0.2	1,182,573	0.2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pumps, not including power pumps..	17	1,014	0.2	3,277,182	0.2	1,873,162	0.2	13.0	143.1	344.6	19.3	308.8	248.2	26.9	225.1	340.8
Screws, machine.....	7	1,464	0.3	3,275,186	0.2	1,906,898	0.2	351.9	-28.0	.....	447.7	-24.6	.....	354.0	-14.6	.....
Ice, manufactured.....	132	1,277	0.2	3,134,302	0.2	2,258,393	0.3	43.2	71.5	73.9	38.1	86.5	108.7	32.4	84.4	107.9
Coffins, burial cases, and undertakers' goods.....	19	1,252	0.2	2,966,388	0.2	1,672,652	0.2	0.6	7.0	18.3	-3.1	21.3	40.1	-3.7	28.9	45.1
Motorcycles, bicycles, and parts.....	9	752	0.1	2,931,383	0.2	1,297,217	0.2	-20.2	111.2	87.4	27.0	121.7	-74.6	4.4	112.7	-68.4
Bags, paper.....	9	646	0.1	2,893,011	0.2	1,061,732	0.1	16.0	15.6	121.1	20.9	58.2	110.4	40.7	35.3	168.3
Springs, steel, car and carriage.....	7	819	0.2	2,773,666	0.2	1,223,167	0.2	157.5	.....	.....	332.1	.....	.....	254.2	.....	.....
Ink, printing.....	7	254	( <sup>2</sup> )	2,763,537	0.2	1,409,603	0.2	38.8	35.6	32.4	44.9	44.6	86.6	28.4	20.4	174.7
Oil, not elsewhere specified.....	20	138	( <sup>2</sup> )	2,675,950	0.2	787,494	0.1	-12.1	12.1	.....	31.4	29.7	.....	0.4	49.5	.....
Flags, banners, regalia, society badges and emblems.....	17	1,074	0.2	2,604,870	0.1	1,402,094	0.2	-14.9	12.7	15.0	-13.9	34.1	25.7	-7.6	22.9	57.4
Carriages and sleds, children's.....	7	1,267	0.2	2,426,231	0.1	1,305,480	0.2	22.4	-4.7	38.0	22.7	8.4	.....	9.5	16.9	.....
Cars and general shop construction and repairs by electric-railroad companies.....	48	1,879	0.4	2,385,584	0.1	1,308,178	0.2	42.6	778.7	-34.5	41.1	883.1	-30.9	47.0	660.7	-24.5
Lime.....	38	1,416	0.3	2,334,349	0.1	1,628,367	0.2	11.2	41.6	.....	44.1	21.4	.....	59.3	27.4	.....
Wood, turned and carved.....	61	985	0.2	2,284,105	0.1	997,858	0.1	-18.5	0.1	.....	-7.1	11.1	.....	-28.5	21.3	.....
Cordage and twine and jute goods..	6	560	0.1	2,231,973	0.1	828,166	0.1	-29.2	-26.1	1.7	-18.2	-16.1	9.9	12.6	1.6	15.8
Salt.....	8	813	0.2	2,197,204	0.1	992,996	0.1	25.5	20.2	-20.5	21.6	54.7	42.8	38.5	42.0	28.2
Stationery goods, not elsewhere specified.....	15	708	0.1	2,174,425	0.1	1,268,311	0.2	-27.9	113.0	.....	-10.7	182.6	.....	-11.8	209.3	.....
Coke, not including gas-house coke..	5	489	0.1	2,156,314	0.1	550,169	0.1	98.8	117.7	59.2	153.5	228.6	1.6	160.7	137.1	-23.9
Awnings, tents, and sails.....	38	615	0.1	2,130,707	0.1	860,571	0.1	56.9	62.7	.....	53.7	.....	.....	61.2	.....	.....
Cement.....	7	849	0.2	2,111,574	0.1	1,221,244	0.2	-4.3	19.4	.....	44.2	-2.9	.....	47.6	-15.1	.....
Sugar, beet.....	3	282	0.1	2,051,307	0.1	1,174,270	0.2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mineral and soda waters.....	202	575	0.1	2,003,699	0.1	1,143,546	0.2	25.8	2.2	.....	43.6	42.0	.....	21.2	31.9	.....
Artificial stone products.....	403	954	0.2	1,946,139	0.1	1,182,816	0.2	19.0	186.4	.....	41.3	209.0	.....	34.6	215.1	.....
Millinery and lace goods.....	30	911	0.2	1,917,919	0.1	612,998	0.1	-32.9	197.6	16.3	-30.1	360.4	8.8	-28.9	317.2	37.5
Toys and games.....	36	1,103	0.2	1,908,700	0.1	1,106,661	0.1	185.0	2.1	.....	148.6	.....	.....	185.3	.....	.....
Clocks and watches, including cases and materials.....	9	1,305	0.3	1,808,486	0.1	1,129,166	0.1	-10.4	-15.0	34.7	-8.7	6.0	27.4	-22.4	26.0	16.4
Liquors, vinous.....	28	186	( <sup>2</sup> )	1,800,050	0.1	747,361	0.1	24.8	-12.4	-5.0	38.0	-2.3	66.5	27.5	-9.0	72.7
Wall plaster.....	22	626	0.1	1,713,618	0.1	943,629	0.1	141.7	-44.4	.....	83.3	-9.8	.....	88.4	-23.5	.....
Brushes.....	16	677	0.1	1,544,399	0.1	812,417	0.1	59.3	.....	.....	26.6	.....	.....	36.7	.....	.....
Explosives.....	11	311	0.1	1,439,009	0.1	466,905	0.1	-13.1	-16.4	21.6	-16.3	-6.7	38.6	-24.1	8.3	2.0
Gas, illuminating and heating.....	25	398	0.1	1,431,826	0.1	952,045	0.1	-40.2	-70.3	61.2	-53.5	-36.0	22.4	-57.7	-35.0	13.8
House-furnishing goods, not elsewhere specified.....	26	320	0.1	1,430,265	0.1	434,735	0.1	-12.1	-0.5	.....	-8.3	97.3	.....	-31.6	81.2	.....
Wool, shoddy.....	5	523	0.1	1,353,121	0.1	533,459	0.1	19.4	2.8	-10.1	7.6	1.5	-16.2	3.5	77.0	-27.4
Dairymen's, poultrymen's, and apiarists' supplies.....	18	442	0.1	1,277,115	0.1	555,546	0.1	-7.7	32.7	.....	11.1	34.9	.....	-10.6	43.6	.....
Jewelry.....	57	477	0.1	1,265,096	0.1	861,622	0.1	34.0	35.9	17.0	0.8	92.2	-24.4	35.5	50.0	21.5
Grease and tallow, not including lubricating greases.....	34	400	0.1	1,215,913	0.1	544,437	0.1	33.3	140.0	.....	19.5	58.2	.....	27.7	116.9	.....
Hats and caps, other than felt, straw, and wool.....	28	431	0.1	1,040,277	0.1	465,816	0.1	6.2	16.3	-46.8	29.4	25.2	-36.1	22.0	3.2	14.2
All other industries.....	1,254	36,156	7.1	124,516,683	7.0	58,222,716	7.6	.....	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> Percentages are based on figures in Table 51; a minus sign (-) denotes decrease; percentages are omitted where base is less than 100, or where comparable figures can not be given.

<sup>2</sup> Less than one-tenth of 1 per cent.



Separate statistics are presented for 101 industries, or industry groups, for which products valued at more than \$1,000,000 were reported for 1914. These industries include 7 with products exceeding \$50,000,000 in value; 12 with products between \$25,000,000 and \$50,000,000; 17 with products between \$10,000,000 and \$25,000,000; 11 with products between \$5,000,000 and \$10,000,000; and 54 with products between \$1,000,000 and \$5,000,000.

Among those included under the head of "all other industries" are the following, which have products exceeding in value some for which figures are presented in the table: Babbitt metal and solder; bags, other than paper; cash registers and calculating machines; clothing, horse; firearms and ammunition; galvanizing; locomotives, not made by railroad companies; matches; cottonseed oil and cake; enameled oilcloth; oleomargarine; scales and balances; silk goods; soap; waste; wire; wool pulling; and woolen, worsted, and felt goods. Statistics for these can not be shown separately without the possibility of disclosing the operations of individual establishments.

More than one-half of the value of the manufactured products of the state is represented by the first 10 industries shown in the preceding table, but there are a large number of others which are of considerable importance. It will be seen from Table 55 that there is a wide diversity in the manufactures of the state, since of the 353 classifications shown for the United States in 1914, 291 were represented in Ohio. The leading industries of the state are steel works and rolling mills, foundries and machine shops, rubber goods, and automobiles, the first three of which in 1914 reported products in excess of \$100,000,000 each in value.

The industries in this table are arranged in the order of their importance as measured by value of products, but would vary considerably if based on average number of wage earners, or value added by manufacture. Steel works and rolling mills and foundries and machine shops, ranking first and second, respectively, in value of products, were second and first, respectively, in both average number of wage earners and value added by manufacture. A marked variation in these items appears for iron and steel, blast furnaces; slaughtering and meat packing; and flour-mill and gristmill products. Iron and steel, blast furnaces ranked fifth in value of products, twentieth in average number of wage earners, and fifteenth in value added by manufacture; slaughtering and meat packing held sixth place in value of products, but only twenty-fourth in number of wage earners and twenty-sixth in value added by manufacture; and flour-mill and gristmill products ranked eighth in value of products, and thirty-third and twenty-seventh, respectively, in number of wage earners and value added by manufacture. Printing and publishing, seventh in value of products and average number of wage earners, was fourth in value added by manufacture.

In rank according to value of products, there were a number of changes in 1914 as compared with 1909. Of the more important industries shown in the table, steel works and rolling mills, foundries and machine shops, and printing and publishing held the same rank at both censuses. Automobiles, including bodies and parts, advanced from eighth place in 1909 to fourth in 1914, while iron and steel, blast furnaces, slaughtering and meat packing, flour-mill and gristmill products, and boots and shoes, ranking third, fifth, sixth, and tenth, respectively, in 1909, were fifth, sixth, eighth, and eleventh, respectively, in 1914. Electrical machinery, apparatus, and supplies advanced from twentieth place in 1909 to tenth in 1914, whereas lumber and timber products dropped from ninth place in 1909 to fifteenth in 1914. Tobacco manufactures and men's clothing ranked twelfth and fifteenth, respectively, in 1909, but only sixteenth and seventeenth, respectively, in 1914. The changes in rank are affected somewhat by the inclusion in the table of "rubber goods, not elsewhere specified," in 1914, and by reason of the fact that the establishments engaged in the manufacture of brick and tile and of pottery products were reclassified at the census of 1914, and are shown combined in the table, in order to present comparative figures for the manufacture of clay products for the different censuses.

*Iron and steel.*—Steel works and rolling mills and blast furnaces may be grouped, for convenience of presentation, with the tin-plate and terneplate industry. The three allied industries combined gave employment in 1914 to an average of 53,136 wage earners, and turned out products valued at \$288,818,857, or 10.4 per cent and 16.2 per cent of the respective totals for all manufactures in the state. These figures represent an increase over 1909 in the average number of wage earners of 6,579, or 14.1 per cent, and in value added by manufacture of \$4,415,472, or 5.9 per cent, but a decrease in the value of products of \$549,791, or two-tenths of 1 per cent. While there were increases in average number of wage earners, value of products, and value added by manufacture in the steel works and rolling mills and the tin-plate and terneplate branches of the industry, in the blast furnace branch there was a decrease of 1,509, or 20.7 per cent, in average number of wage earners, \$10,729,870, or 12.8 per cent, in value of products, and \$3,043,672, or 19.9 per cent, in value added by manufacture.

The plating of sheet metal with tin or with terne (a mixture of lead and tin) is treated as a separate industry, notwithstanding the fact that nearly all the establishments so engaged roll all or a portion of the plates dipped. Measured by value of products, in 1914 Ohio ranked second among the states in the combined industries, and also in each of the two leading branches, and third in tin plate and terneplate, contributing 22.3 per cent of the total value reported in 1914 for all steel works and rolling mills in the United States, 23 per cent for

all blast furnaces, and 15.8 per cent for all tin-plate and terneplate mills. The corresponding percentages for the respective branches in 1909 were 20.1 per cent, 21.4 per cent, and 16.4 per cent, respectively.

*Foundry and machine-shop products.*—The statistics presented for this classification cover products of great diversity, embracing not only the output of general foundries and machine shops, but also that of establishments engaged in automobile repairing, where repairs partake of the character of machine-shop work; the manufacture of bells; cast-iron and cast-steel pipe; steam and gas engines; gas machines and gas and water meters; hardware; saddlery hardware; power pumps; plumbers' supplies; steam fittings and steam and hot-water heating apparatus; and structural iron-work, not made in steel works or rolling mills. The statistics for nine branches of the industry are shown separately for 1914 in Table 55. The foundry and machine-shop industry in its broadest sense is of greater importance in the state than is indicated by the statistics presented under this specific title, for the reason that some machine shops manufacturing special products, such as cash registers and calculating machines; cutlery and tools; electrical machinery; files; firearms; iron and steel bolts, nuts, washers, and rivets; doors and shutters; locomotives; sewing machines; stoves and furnaces; vault lights and ventilators; and washing machines and clothes wringers, have been assigned to other classifications. The foundry and machine-shop industry gave employment to an average of 73,103 wage earners in 1914, which was 14.3 per cent of the total reported for all manufactures, and was the largest number shown for any of the industries specified in the table; it represented an increase of 8,286, or 12.8 per cent, over the number reported for 1909. During the same period the value of products increased \$33,018,421, or 22.6 per cent, and value added by manufacture, \$20,075,301, or 24.7 per cent.

*Rubber goods.*—This classification covers the manufacture of rubber tires, clothing, mats, type, springs, tubing, brushes, bands, etc. Ohio held first rank among the states in the manufacture of rubber goods, both in 1914 and 1909, the value of products for the industry in the state representing 49 per cent of the total value of products for the industry for the United States in 1914 and 42 per cent in 1909. In 1914 the industry gave employment to an average of 21,705 wage earners, an increase of 11,323, or 109.1 per cent, over the number reported for 1909, while the value of products increased \$55,748,074, or 103.4 per cent, and value added by manufacture, \$29,453,013, or 137.2 per cent, during the same period. As measured by value of products, the manufacture of rubber goods ranked third in 1914 and fourth in 1909 among the industries of the state. The growth of this industry during recent years is due principally to the increased demand for rubber tires, the value of which repre-

sented the greater part of the total value of products reported for the industry in 1914.

*Automobiles, including bodies and parts.*—In addition to the articles named in the industry designation, this classification includes the manufacture of automobile accessories; this branch of the industry, however, is to a considerable extent interwoven with other industries. A number of the foundries and machine shops and establishments engaged in the manufacture of electrical machinery, apparatus, and supplies and in brass and bronze products incidentally manufacture automobile accessories and parts, while, as already stated, a number of establishments classified under the head of "rubber goods, not elsewhere specified" manufacture automobile tires. In 1914, as in 1909, Ohio ranked second among the states in the manufacture of automobiles, although the proportion which the state contributed of the total value of products for the industry in the United States was slightly less in 1914 than in 1909, being 13.5 per cent and 15.6 per cent, respectively. There was an increase of 6,622, or 54.6 per cent, in the average number of wage earners employed from 1909 to 1914, while the value of products increased \$46,871,831, or 120.7 per cent, and value added by manufacture, \$10,063,332, or 49.5 per cent, during the same period.

*Slaughtering and meat packing.*—Under this head are included wholesale slaughtering and meat-packing establishments and those engaged in the manufacture of sausage exclusively. During the five-year period 1909–1914 the value of products for this industry showed an increase of \$15,870,278, or 31.2 per cent, while the average number of wage earners employed increased 533, or 17.3 per cent. The industry developed more rapidly, however, during the period 1904–1909 than during either the preceding or later census periods.

*Printing and publishing.*—This classification includes establishments engaged in job printing; the printing and publishing of books, newspapers, and periodicals, and of music; bookbinding and blank-book making; steel engraving and plate printing; and lithographing. The industry as a whole shows an increase in value of products of \$13,951,618, or 33.5 per cent, from 1909 to 1914, only slightly more than that for the preceding five-year period.

*Flour-mill and gristmill products.*—This classification includes all merchant mills grinding wheat, corn, rye, or other grains. It does not, however, include factories making fancy cereal foods as a chief product. During the five-year period 1909–1914 the number of establishments in the industry decreased 24, or 3.6 per cent, the average number of wage earners, 222, or 8.6 per cent, while the decrease in value of products was \$2,922,153, or 6.1 per cent. Notwithstanding these decreases, Ohio ranked fifth among the states in this industry, as measured by value of products, both in 1909 and 1914.

*Brick, tile, pottery, and other clay products.*—At the censuses of 1909, 1904, and 1899 the statistics for clay products were shown separately for "brick and tile" and "pottery, terra-cotta, and fire-clay products," but in 1914 the establishments were classified differently and included under the headings "brick and tile, terra-cotta, and fire-clay products" and "pottery." For the combined industry, Ohio ranked first among the states in 1914, contributing 22.2 per cent of the total value of products of the industry in the United States; the corresponding proportions for 1909 and in 1904 were 18.1 per cent and 19 per cent, respectively. In 1914 the total value of products for the combined industry was \$38,667,374, an increase over 1909 of \$8,136,372, or 26.6 per cent, and over 1904 of \$12,980,504, or 50.5 per cent.

*Electrical machinery, apparatus, and supplies.*—The rapid advance in the use of electricity in science and industry has created a great demand for electrical machinery and appliances of all sorts. The industry in Ohio shows remarkable development during the last decade, the value of products having increased over threefold and the average number of wage earners more than doubled. The increase in value of products of 92.4 per cent over 1909 is an indication of the rapid advance the state has made in recent years in the manufacture of electrical machinery. Measured by value of products, this industry ranked tenth among the manufacturing industries of the state in 1914, having advanced from twentieth place in 1909.

*Boots and shoes, including cut stock and findings.*—Of the 73 establishments included under this classification in 1914, 62 were engaged primarily in the manufacture of boots and shoes, giving employment to 14,461 wage earners and turning out products amounting to \$32,773,922. Although there was a decrease from 1909 to 1914 of 1,352, or 8.4 per cent, in the average number of wage earners employed, the value of products increased \$2,090,748, or 6.6 per cent.

*Cars and general shop construction and repairs by steam-railroad companies.*—This industry represents the work done in car shops of steam-railroad companies and consists principally of repairs to the rolling stock and equipment of the companies, although there may be some new construction of rolling stock. The statistics exclude minor repairs in roundhouses. As measured by value of products, the growth of the industry was less during the five-year period 1909–1914 than during either of the preceding five-year periods. In 1914 employment was given to 21,639 wage earners, this being the fifth largest number reported by any of the industries of the state specified in the table and representing an increase of 87.6 per cent over the number reported in 1899 and 27.1 per cent for the decade.

*Liquors, malt.*—Although the number of establishments reported for this industry in 1914 was smaller

by four than the number in 1909, the average number of wage earners increased 984, or 22.6 per cent, the value of products \$6,658,215, or 26.3 per cent, and value added by manufacture \$4,030,833, or 21.5 per cent. The percentage of increase was greater for all items for the period 1909–1914 than for either of the earlier census periods.

*Lumber and timber products.*—This industry embraces not only logging operations, sawmills, and planing mills, but also establishments engaged in the manufacture of wooden packing boxes and window and door screens and weather strips. The industry as a whole was practically at a standstill at the census of 1909, the increase at that census over 1904 being only 5.1 per cent, while from 1909 to 1914 there were decreases as follows: Number of establishments, 202, or 14.5 per cent; average number of wage earners, 1,535, or 11.4 per cent; and value of products, \$2,744,375, or 7.9 per cent.

*Tobacco manufactures.*—The statistics for this industry in Ohio include the manufacture of chewing and smoking tobacco and snuff, and of cigars. Of the 961 establishments reporting, 937 were cigar factories, but the value of their products represented only about 40 per cent of the total for the combined industry. From 1909 to 1914 there was a decrease in the value of products of \$440,190, or 1.5 per cent, while for the decade 1904–1914 there was an increase of \$7,978,557, or 38.9 per cent.

*Persons engaged in manufacturing industries.*—Table 3 shows, for 1914 and 1909, the number of persons engaged in manufactures, distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

Table 3

CLASS.	Census year.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.				
		Total.	Male.	Female.	Per cent of total.	
					Male.	Female.
All classes.....	1914	606,807	512,621	94,186	84.5	15.5
	1909	523,004	439,811	83,193	84.1	15.9
Proprietors and officials.....	1914	32,582	31,622	960	97.1	2.9
	1909	31,213	30,341	872	97.2	2.8
Proprietors and firm members....	1914	13,624	13,001	623	95.4	4.6
	1909	14,719	14,141	578	96.1	3.9
Salaried officers of corporations....	1914	7,114	6,945	169	97.6	2.4
	1909	6,371	6,258	113	98.2	1.8
Superintendents and managers....	1914	11,844	11,676	168	98.6	1.4
	1909	10,123	9,942	181	98.2	1.8
Clerks and other subordinate salaried employees.	1914	63,790	46,357	17,433	72.7	27.3
	1909	44,857	34,101	10,756	76.0	24.0
Wage earners (average number).....	1914	510,435	434,642	75,793	85.2	14.8
	1909	446,934	375,369	71,565	84.0	16.0
16 years of age and over.....	1914	508,693	433,325	75,368	85.2	14.8
	1909	441,690	372,694	68,996	84.4	15.6
Under 16 years of age.....	1914	1,742	1,317	425	75.6	24.4
	1909	5,244	2,675	2,569	51.0	49.0

In 1914 there were 606,807 persons engaged in the manufactures of the state of whom 510,435, or more than four-fifths, were wage earners, 32,582 were proprietors and officials, and 63,790 were clerks and other subordinate salaried employees. Of the wage earners 16 years of age and over, 433,325, or more than four-fifths, were males, and 75,368, or less than one-sixth, were females. The largest number of females were employed as wage earners, but of the classes pre-

sented, that of clerks and other subordinate salaried employees shows the largest proportion. Figures for the sex and age distribution of wage earners for individual industries will be found in Table 55.

Table 4 gives, for the several classes of persons engaged in manufactures, the percentages of increase from 1909 to 1914 and the per cent distribution at the two censuses.

Table 4

CLASS.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.								
	Per cent of increase, <sup>1</sup> 1909-1914.			Per cent distribution.					
	Total.	Male.	Female.	Total.		Male.		Female.	
				1914	1909	1914	1909	1914	1909
All classes.....	16.0	16.6	13.2	100.0	100.0	100.0	100.0	100.0	100.0
Proprietors and officials.....	4.4	4.2	10.1	5.4	6.0	6.2	6.9	1.0	1.0
Proprietors and firm members.....	-7.4	-8.1	7.8	2.2	2.8	2.5	3.2	0.7	0.7
Salaried officers of corporations.....	11.7	11.0	49.6	1.2	1.2	1.4	1.4	0.2	0.1
Superintendents and managers.....	17.0	17.4	-7.2	2.0	1.9	2.3	2.3	0.2	0.2
Clerks and other subordinate salaried employees.....	42.2	35.9	62.1	10.5	8.6	9.0	7.8	18.5	12.9
Wage earners (average number).....	14.2	15.8	5.9	84.1	85.4	84.8	85.3	80.5	86.0
16 years of age and over.....	15.2	16.3	9.2	83.8	84.4	84.5	84.7	80.0	82.9
Under 16 years of age.....	-66.8	-50.8	-83.5	0.3	1.0	0.3	0.6	0.5	3.1

<sup>1</sup> A minus sign (-) denotes decrease.

This table shows increases for the five-year period for each of the several classes of employees with the exception of proprietors and firm members and for wage earners under 16 years of age. The largest percentage of decrease is shown for the latter class, but the proportion which this class formed of the total number of wage earners was only three-tenths of 1 per cent in 1914 and 1 per cent in 1909. The decrease in proprietors and firm members is referred to in connection with Table 1. The largest percentage of increase for both sexes combined is shown for clerks and other subordinate salaried employees. Wage earners over 16 years of age represented 83.8 per cent of the total number of persons engaged in the manufacturing industries of the state in 1914 and 84.4 per cent in 1909.

In order to compare the distribution of persons engaged in manufactures in 1914 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See "Explanation of terms.") Table 5 makes this comparison according to occupational status.

Table 5

CLASS.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.								
	Number.			Per cent distribution.			Per cent of increase. <sup>1</sup>		
	1914	1909	1904	1914	1909	1904	1909-1914	1904-1909	
Total.....	606,807	523,004	417,946	100.0	100.0	100.0	16.0	25.1	
Proprietors and firm members.....	13,624	14,719	13,657	2.2	2.8	3.3	-7.4	7.8	
Salaried employees.....	82,748	61,351	39,991	13.6	11.7	9.6	38.9	53.4	
Wage earners (average).....	510,435	446,934	364,298	84.1	85.5	87.2	14.2	22.7	

<sup>1</sup> A minus sign (-) denotes decrease.

During the decade there were slight decreases in the percentage that proprietors and firm members and wage earners formed of the total number engaged in the manufactures of the state, and a corresponding increase in the proportion of salaried employees. Proprietors and firm members show an increase of 7.8 per cent from 1904 to 1909, but decreased by 7.4 per cent during the five-year period 1909-1914. The two other classes, as well as the total for all classes combined, show increases for both five-year periods.

The average number of wage earners employed and their per cent distribution as males 16 years of age and over, females 16 years of age and over, and children under 16 years of age, are given in Table 6 for 1914, 1909, and 1904. The table also shows for some of the important industries separately a similar distribution of wage earners for 1914 and 1909.

For all industries combined, the proportion of male wage earners 16 years of age and over was slightly larger in 1914 than in 1909, while the proportions for both females over 16 years of age and for children under 16 decreased.

In 1914, as compared with 1909, of the 42 industries for which separate figures are given in the table, 29 show an increased proportion of males and 12 an increased proportion of females, while but 4 show an increase in the proportion of children under 16 years of age. Five of the industries that gave employment to children under 16 years of age in 1909 reported no employees of this class in 1914.

In the manufacture of hosiery and knit goods in 1914, over three-fourths of the wage earners 16 years

## MANUFACTURES—OHIO.

of age and over were women, while in the manufacture of paper boxes, men's clothing and women's clothing, confectionery, and tobacco manufactures,

although the proportions were smaller, there was an increase in the proportion of female wage earners 16 years of age and over in 1914 as compared with 1909.

Table 6

INDUSTRY.	Census year.	WAGE EARNERS.				INDUSTRY.	Census year.	WAGE EARNERS.			
		Average number. <sup>1</sup>	Per cent of total.					Average number. <sup>1</sup>	Per cent of total.		
			16 years of age and over.		Under 16 years of age.				16 years of age and over.		Under 16 years of age.
			Male.	Female.					Male.	Female.	
All industries.....	1914 1909 1904	510,435 446,934 364,298	84.9 83.4 83.4	14.8 15.4 15.2	0.3 1.2 1.4	Foundry and machine-shop products. ....	1914 1909	73,103 64,817	98.1 98.3	1.4 1.3	0.5 0.4
Agricultural implements.....	1914 1909	5,464 5,997	99.4 99.1	0.4 0.7	0.2 0.2	Furniture and refrigerators.....	1914 1909	7,831 8,232	94.6 96.7	4.4 2.4	1.0 0.9
Automobiles, including bodies and parts.	1914 1909	18,752 12,130	97.8 98.6	2.1 1.1	0.2 0.2	Glass.....	1914 1909	10,997 10,159	91.6 87.6	7.9 8.2	0.5 4.3
Boots and shoes, including cut stock and findings.	1914 1909	14,674 16,026	58.4 55.5	40.8 41.0	0.8 3.4	Hosiery and knit goods.....	1914 1909	3,411 3,149	22.9 16.5	76.4 76.5	0.7 7.0
Boxes, fancy and paper.....	1914 1909	2,456 2,530	35.1 35.7	64.5 57.0	0.4 7.3	Iron and steel, blast furnaces.....	1914 1909	5,786 7,295	100.0 100.0	( <sup>2</sup> ) ( <sup>2</sup> )	.....
Brass, bronze, and copper products.....	1914 1909	2,277 2,232	98.6 97.5	1.4 2.2	..... 0.3	Iron and steel, steel works and rolling mills.	1914 1909	46,397 38,586	99.3 99.2	0.6 0.8	( <sup>2</sup> ) ( <sup>2</sup> )
Bread and other bakery products.....	1914 1909	7,665 5,972	79.1 80.7	20.5 18.5	0.4 0.9	Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.	1914 1909	2,365 2,797	88.1 85.1	11.8 11.9	( <sup>2</sup> ) 3.0
Brick, tile, pottery, and other clay products.	1914 1909	27,334 23,985	87.0 86.0	12.7 13.1	0.3 0.9	Iron and steel forgings, not made in steel works or rolling mills.	1914 1909	2,308 2,002	99.7 96.3	0.1 0.3	0.2 3.3
Butter, cheese, and condensed milk.....	1914 1909	1,480 1,067	94.0 89.7	5.8 9.0	0.2 1.3	Iron and steel, wrought pipe.....	1914 1909	2,285 1,081	100.0 99.3	..... 0.7	.....
Canning and preserving.....	1914 1909	2,507 2,009	55.2 45.6	44.3 52.8	0.5 1.6	Liquors, malt.....	1914 1909	5,340 4,356	99.8 99.8	0.2 0.2	..... ( <sup>2</sup> )
Carriages and wagons and materials.....	1914 1909	5,997 8,815	95.9 96.8	4.0 2.7	0.2 0.6	Lumber and timber products.....	1914 1909	11,921 13,456	98.8 98.8	1.1 1.1	0.1 0.2
Cars and general shop construction and repairs by electric-railroad companies.	1914 1909	1,879 1,318	98.6 98.4	1.4 1.5	..... ( <sup>2</sup> )	Marble and stone work.....	1914 1909	2,523 2,012	99.9 99.3	0.1 ( <sup>2</sup> )	..... 0.6
Cars and general shop construction and repairs by steam-railroad companies.	1914 1909	21,639 20,728	99.9 99.8	0.1 0.2	( <sup>2</sup> ) ( <sup>2</sup> )	Paint and varnish.....	1914 1909	2,107 1,535	92.0 88.5	7.9 11.5	( <sup>2</sup> ) 0.1
Cars, steam-railroad, not including operations of railroad companies.	1914 1909	2,885 2,282	99.8 99.6	0.2 0.4	..... .....	Paper and wood pulp.....	1914 1909	5,430 4,673	87.7 84.5	11.7 15.4	0.6 0.1
Chemicals.....	1914 1909	2,017 1,132	98.3 96.4	1.7 3.6	..... .....	Paper goods, not elsewhere specified.....	1914 1909	2,269 2,040	50.5 47.8	49.5 51.5	..... 0.7
Clothing, men's, including shirts.....	1914 1909	10,758 9,950	29.5 30.0	69.6 66.5	0.9 3.5	Printing and publishing.....	1914 1909	18,070 15,756	77.1 73.7	21.8 24.9	1.1 1.4
Clothing, women's.....	1914 1909	9,775 8,843	35.7 35.0	64.2 63.6	0.1 1.3	Rubber goods, not elsewhere specified....	1914 1909	21,705 10,382	88.8 84.8	11.1 14.3	0.1 0.9
Confectionery.....	1914 1909	3,149 2,493	35.3 30.4	63.9 59.5	0.7 10.1	Shipbuilding, including boat building.....	1914 1909	2,879 3,200	99.9 100.0	0.1 .....	.....
Copper, tin, and sheet-iron products.....	1914 1909	7,448 6,598	81.5 78.7	18.3 16.3	0.2 5.0	Slaughtering and meat packing.....	1914 1909	3,619 3,086	97.7 97.8	2.2 2.2	( <sup>2</sup> )
Cutlery and tools, not elsewhere specified.	1914 1909	3,199 2,820	91.8 90.5	8.1 9.2	0.1 0.3	Stoves and furnaces, including gas and oil stoves.	1914 1909	8,575 7,274	99.3 99.5	0.4 0.3	0.3 0.2
Electrical machinery, apparatus, and supplies.	1914 1909	12,695 8,073	77.9 67.6	22.0 31.5	0.1 0.9	Tobacco manufactures.....	1914 1909	13,282 12,631	32.9 32.3	66.9 66.8	0.1 0.9
Flour-mill and gristmill products.....	1914 1909	2,363 2,585	99.1 96.0	0.8 4.0	( <sup>2</sup> ) .....	All other industries.....	1914 1909	91,819 80,830	80.3 78.2	19.3 20.3	0.5 1.6

<sup>1</sup> For method of estimating the distribution, by sex and age periods, of the average number for all industries combined, see "Explanation of terms."

<sup>2</sup> Less than one-tenth of 1 per cent.

Table 7 shows the average number and the per cent distribution of wage earners employed in each of the 43 cities having more than 10,000 inhabitants, classified according to age periods, and in the case of those 16 years of age and over, according to sex, for 1914, 1909, and 1904.

Table 8 gives percentages of increase from census to census, based on the figures in Table 7, for cities where per cent of increase can be computed.

In each of the cities the male wage earners 16 years of age and over greatly outnumbered the females, the only cities in which the proportion of adult males fell

below 75 per cent in 1914 being Coshocton, East Liverpool, Findlay, Lancaster, Piqua, and Portsmouth. Nearly all of the cities show marked decreases from census to census in both numbers and proportions of wage earners under 16 years of age. Lorain shows the largest proportion of male wage earners 16 years of age and over at each of the five-year periods, although there was a slight decrease between 1909 and 1914.

Cleveland, the most important city in respect to number of wage earners employed in 1914, shows an increase, both actual and proportional, in adult males



and females during the five-year period 1909-1914. The number of wage earners under 16 years of age decreased 63.3 per cent, while the proportion which this class formed of the total decreased from 1.6 per cent in 1909 to five-tenths of 1 per cent in 1914. Cincinnati, the second city in respect to wage

earners, shows, for 1909-1914, an increase in the proportion of adult males, a slight decrease in the proportion of adult females, while the proportion of wage earners under 16 years of age decreased from 2.2 per cent in 1909 to six-tenths of 1 per cent in 1914.

Table 7

## AVERAGE NUMBER OF WAGE EARNERS IN MANUFACTURING INDUSTRIES.

CITY.	Total.			16 years of age and over.									Under 16 years of age.			Per cent of total.										
				Male.			Female.									16 years of age and over.						Under 16 years of age.				
				1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904	Male.			Female.							
	1914	1909	1904													1914	1909	1904	1914	1909	1904	1914	1909	1904		
Akron.....	24,680	15,831	9,626	21,825	13,387	7,952	2,802	2,223	1,539	53	221	135	88.4	84.6	82.6	11.4	14.0	16.0	0.2	1.4	1.4					
Alliance.....	2,333	2,524		2,266	2,385		64	131		3	8		97.1	94.5		2.7	5.2		0.1	0.3						
Ashtabula.....	1,868	1,471	846	1,770	1,934	737	95	128	107	3	9	2	94.8	90.7	87.1	5.1	8.7	12.6	0.2	0.6	0.2					
Barberton.....	3,118			2,696			421			1			86.5			13.5			(1)							
Bellaire.....	2,603	2,597		2,357	2,301		234	254		12	42		90.5	88.6		9.0	9.8		0.5	1.6						
Cambridge.....	1,455	1,230		1,353	1,174		98	56		4			93.0	95.4		6.7	4.6		0.3							
Canton.....	12,255	9,964	5,938	10,823	8,892	5,011	1,393	955	896	39	117	31	88.3	89.2	84.4	11.4	9.6	15.1	0.3	1.2	0.5					
Chillicothe.....	1,557	1,674	1,553	1,239	1,157	1,207	315	517	316	3		30	79.6	69.1	77.7	20.2	30.9	20.3	0.2		1.9					
Cincinnati.....	59,861	60,182	58,584	44,991	43,889	43,387	14,509	14,949	14,213	361	1,344	984	75.2	72.9	74.1	24.2	24.8	24.3	0.6	2.2	1.7					
Cleveland.....	103,317	84,728	64,041	85,069	69,643	53,316	17,756	13,746	9,362	492	1,339	1,363	82.3	82.2	83.3	17.2	16.2	14.6	0.5	1.6	2.1					
Columbus.....	17,236	16,428	14,350	14,269	13,137	11,563	2,922	3,146	2,476	45	145	311	82.8	80.0	80.6	17.0	19.2	17.3	0.3	0.9	2.2					
Coshocton.....	1,614			991			623						61.4			38.6										
Dayton.....	24,061	21,549	17,093	20,222	17,876	14,183	3,812	3,572	2,798	27	101	112	84.0	83.0	83.0	15.8	16.6	16.4	0.1	0.5	0.7					
East Cleveland.....	129			124			5						96.1			3.9										
East Liverpool.....	4,830	4,873	5,228	3,566	3,587	3,720	1,238	1,218	1,468	26	68	40	73.8	73.6	71.2	25.6	25.0	28.1	0.5	1.4	0.8					
Elyria.....	2,735	2,673		2,355	2,357		376	289		4	27		86.1	88.2		13.7	10.8		0.1	1.0						
Findlay.....	1,737	1,376	1,343	1,020	921	1,044	709	454	294	8	1	5	58.7	66.9	77.7	40.8	33.0	21.9	0.5	0.1	0.4					
Fostoria.....	1,252			1,013			239						80.9			19.1										
Fremont.....	2,003			1,882			379			2			81.5			18.4			0.1							
Hamilton.....	6,043	6,895	6,107	5,252	6,047	5,319	775	752	721	16	96	67	86.9	87.7	87.1	12.8	10.9	11.8	0.3	1.4	1.1					
Ironton.....	1,420	1,920	1,800	1,193	1,647	1,714	207	269	76	20	4	10	84.0	85.8	95.2	14.6	14.0	4.2	1.4	0.2	0.6					
Lakewood.....	1,774			1,555			219						87.7			12.3										
Lancaster.....	1,583	1,532		1,134	1,118		449	412		1	2		71.6	73.0		28.4	26.9		0.1							
Lima.....	4,876	3,807	2,733	3,676	2,474	2,042	1,199	1,082	591	1	51	100	75.4	68.6	74.7	24.6	30.0	21.6	(1)	1.4	3.7					
Lorain.....	6,436	6,697	8,102	6,357	6,674	8,075	77	20	26	2	3	1	98.8	99.7	99.1	1.2	0.3	0.8	(1)	(1)	(1)					
Mansfield.....	3,398	3,204	3,021	2,663	2,201	2,215	730	984	786	5	19	20	78.4	68.7	73.3	21.5	30.7	26.0	0.1	0.6	0.7					
Marietta.....	1,401	1,288	1,314	1,317	1,181	1,245	80	106	59	4	1	10	94.0	91.7	94.7	5.7	8.2	4.5	0.3	0.1	0.8					
Marion.....	2,577	2,619	1,721	2,323	2,344	1,517	248	272	160	6	3	44	90.1	89.5	88.1	9.6	10.4	9.3	0.2	0.1	2.6					
Massillon.....	1,768	1,934	1,995	1,591	1,820	1,766	177	87	54		21	175	90.0	94.4	88.5	10.0	4.5	2.7		1.1	8.8					
Middletown.....	4,003	2,576		3,523	1,805		480	769			2		88.0	70.1		12.0	29.8		0.1							
Mount Vernon.....	772			736			20			16			95.3			2.6			2.1							
Newark.....	4,583	3,913	3,627	4,132	3,576	3,326	440	288	226	11	51	75	90.2	91.4	91.7	9.6	7.3	6.2	0.2	1.3	2.1					
Norwood.....	5,808	3,907		4,538	3,215		1,269	684		1	8		78.1	82.3		21.9	17.5		(1)	0.2						
Piqua.....	2,777	2,683	2,044	1,923	1,913	1,647	850	751	386	4	19	11	69.2	71.3	80.6	30.6	28.0	18.9	0.1	0.7	0.5					
Portsmouth.....	3,597	3,728	4,072	2,441	2,237	2,726	1,137	1,390	1,173	19	101	173	67.9	60.0	66.9	31.6	37.3	28.8	0.5	2.7	4.2					
Sandusky.....	2,727	2,118	2,323	2,403	1,608	1,817	322	466	463	2	44	43	88.1	75.9	78.2	11.8	22.0	19.9	0.1	2.1	1.9					
Springfield.....	7,868	7,405	6,258	7,074	6,616	5,762	786	777	482	8	12	14	89.9	89.3	92.1	10.0	10.5	7.7	0.1	0.2	0.2					
Staubenville.....	4,506	4,267	4,184	4,294	4,045	3,791	202	196	257	10	26	136	95.3	94.8	90.6	4.5	4.6	6.1	0.2	0.6	3.3					
Tiffin.....	2,177	1,632	1,645	1,775	1,289	1,130	348	278	514	54	65	1	81.5	79.0	68.7	16.0	17.0	31.2	2.5	4.0	0.1					
Toledo.....	27,076	18,878	15,697	22,859	15,279	13,517	4,115	3,327	2,114	102	272	66	84.4	80.9	86.1	15.2	17.6	13.5	0.4	1.4	0.4					
Warren.....	2,862	1,798		2,347	1,190		511	547		4	61		82.0	66.2		17.9	30.4		0.1	3.4	0.5					
Youngstown.....	15,861	10,498	8,095	14,997	10,214	7,935	800	272	123	4	12	37	94.6	97.3	98.0	5.4	2.6	1.5	(1)	0.1	0.5					
Zanesville.....	3,035	2,932		2,540	2,562	2,565	492	325	509	3	25	24	83.7	88.1	82.8	16.2	11.1	16.4	0.1	0.9	0.8					

<sup>1</sup> Less than one-tenth of 1 per cent.

<sup>2</sup> Figures do not agree with those published, because it was necessary to revise them in order to include data only for those establishments located within the corporate limits of the city.

Table 8

Table 8

CITY.	PER CENT OF INCREASE IN AVERAGE NUMBER OF WAGE EARNERS. <sup>1</sup>					CITY.	PER CENT OF INCREASE IN AVERAGE NUMBER OF WAGE EARNERS. <sup>1</sup>				
	Period.	Total.	16 years of age and over.		Under 16 years of age.		Period.	Total.	16 years of age and over.		Under 16 years of age.
			Male.	Female.					Male.	Female.	
Akron.....	1904-1914	156.4	174.4	82.1	-60.7	Canton.....	1904-1914	106.4	116.0	55.5	
	1909-1914	55.9	63.0	26.0	-76.0		1909-1914	23.0	21.7	45.9	-66.7
	1904-1909	64.5	68.3	44.4	63.7		1904-1909	67.8	77.4	6.6	
Alliance.....	1909-1914	-7.6	-5.0	-51.1		Chillicothe.....	1904-1914	0.3	2.7	-0.3	
Ashtabula.....	1904-1914	120.8	140.2	-11.2			1909-1914	-7.0	7.1	-39.1	
	1909-1914	27.0	32.7	-25.7			1904-1909	7.8	-4.1	63.6	
	1904-1909	73.9	81.0	19.6		Cincinnati.....	1904-1914	2.2	3.7	2.1	-63.3
Bellaire.....	1909-1914	0.2	2.4	-7.9			1909-1914	-0.5	2.5	-2.9	-73.1
Cambridge.....	1909-1914	18.3	15.2				1904-1909	2.7	1.2	5.2	36.6

<sup>1</sup> A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.



Table 8—Continued.

CITY.	PER CENT OF INCREASE IN AVERAGE NUMBER OF WAGE EARNERS. <sup>1</sup>					CITY.	PER CENT OF INCREASE IN AVERAGE NUMBER OF WAGE EARNERS. <sup>1</sup>				
	Period.	Total.	16 years of age and over.		Under 16 years of age.		Period.	Total.	16 years of age and over.		Under 16 years of age.
			Male.	Female.					Male.	Female.	
Cleveland.....	1904-1914	61.3	59.6	89.7	-63.9	Massillon.....	1904-1914	-11.4	-9.9	.....	
	1909-1914	21.9	22.2	29.2	-63.3		1909-1914	-8.6	-12.9	.....	
	1904-1909	32.3	30.6	46.8	-1.8		1904-1909	-3.1	3.4	-88.0	
Columbus.....	1904-1914	20.1	23.4	18.0	-85.5	Middletown.....	1909-1914	55.4	95.2	-37.6	
	1909-1914	4.9	8.6	-7.1	-69.0		1904-1914	26.4	24.2	94.7	
	1904-1909	14.5	13.6	27.1	-53.4	Newark.....	1909-1914	17.1	15.5	53.8	
Dayton.....	1904-1914	40.8	42.6	36.2	-75.9		1904-1909	7.9	7.5	26.5	
	1909-1914	11.7	13.1	6.7	-73.3	Norwood.....	1909-1914	48.7	41.2	85.5	
	1904-1909	26.1	26.0	27.7	-9.8	Piqua.....	1904-1914	35.9	16.8	120.2	
East Liverpool.....	1904-1914	-7.6	-4.1	-15.7	.....		1909-1914	3.5	0.5	13.2	
	1909-1914	-0.9	-0.6	1.6	.....		1904-1909	31.3	16.2	94.6	
	1904-1909	-6.8	-3.6	-17.0	.....	Portsmouth.....	1904-1914	-11.7	-10.5	-3.1	
Elyria.....	1909-1914	2.3	-0.1	30.1	.....		1909-1914	-3.5	9.1	-18.2	
Findlay.....	1904-1914	29.3	-2.3	141.2	.....		1904-1909	-8.4	-17.9	18.5	
	1909-1914	26.2	10.7	56.2	.....	Sandusky.....	1904-1914	17.4	32.3	-30.5	
	1904-1909	2.5	-11.8	54.4	.....		1909-1914	28.8	49.4	-30.9	
Hamilton.....	1904-1914	-1.0	-1.3	7.5	.....		1904-1909	-8.8	-11.5	0.6	
	1909-1914	-12.4	-13.1	3.1	.....	Springfield.....	1904-1914	25.7	22.8	63.1	
	1904-1909	12.9	13.7	4.3	.....		1909-1914	6.3	6.9	1.2	
Ironton.....	1904-1914	-21.1	-30.4	.....	.....		1904-1909	18.3	14.8	61.2	
	1909-1914	-26.0	-27.6	-23.0	.....	Steubenville.....	1904-1914	7.7	13.3	-21.4	
	1904-1909	6.7	-3.9	.....	.....		1909-1914	5.6	6.2	3.1	
Lancaster.....	1909-1914	3.3	1.4	9.0	.....		1904-1909	2.0	6.7	-23.7	
Lima.....	1904-1914	78.4	80.0	102.9	-99.0	Tiffin.....	1904-1914	32.3	57.1	-32.3	
	1909-1914	35.2	48.6	10.8	-98.0		1909-1914	33.4	37.7	25.2	
	1904-1909	32.0	21.2	83.1	-49.0		1904-1909	-0.8	14.1	-45.9	
Lorain.....	1904-1914	107.5	106.7	.....	.....	Toledo.....	1904-1914	72.5	69.1	94.7	
	1909-1914	-3.9	-4.7	.....	.....		1909-1914	43.4	49.6	23.7	
	1904-1909	115.9	117.0	.....	.....		1904-1909	20.3	13.0	57.4	
Mansfield.....	1904-1914	12.5	20.2	-7.1	.....	Warren.....	1909-1914	59.2	97.2	-6.6	
	1909-1914	6.1	21.0	-25.8	.....	Youngstown.....	1904-1914	95.9	89.0	599.2	
	1904-1909	6.1	-0.6	25.2	.....		1909-1914	51.1	46.8	216.2	
Marietta.....	1904-1914	6.6	5.8	.....	.....		1904-1909	29.7	28.7	121.1	
	1909-1914	8.8	11.5	-24.5	.....	Zanesville.....	1904-1914	-2.0	-1.0	-3.3	
	1904-1909	-2.0	-5.1	.....	.....		1909-1914	3.5	-1.6	51.4	
Marion.....	1904-1914	49.7	53.1	55.0	.....		1904-1909	-5.4	0.7	-36.2	
	1909-1914	-1.6	-0.9	-8.8	.....						
	1904-1909	52.2	54.5	70.0	.....						

<sup>1</sup> A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.

**Wage earners employed, by months.**—The following table gives, for all industries combined, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

Table 9

MONTH.	WAGE EARNERS IN MANUFACTURING INDUSTRIES.					
	Number. <sup>1</sup>			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
January.....	511,055	414,278	349,853	95.6	86.2	93.5
February.....	524,663	421,945	358,147	98.2	87.8	95.8
March.....	534,537	432,343	368,365	100.0	90.0	98.5
April.....	533,186	432,828	374,025	99.7	90.1	100.0
May.....	523,653	436,450	373,007	98.0	90.8	99.7
June.....	518,316	444,998	367,146	97.0	92.6	98.2
July.....	506,133	435,241	349,660	94.7	90.6	93.5
August.....	506,991	448,898	357,622	94.8	93.4	95.6
September.....	510,037	465,351	369,182	95.4	96.9	98.7
October.....	501,396	474,448	370,224	93.8	98.8	99.0
November.....	478,412	476,023	367,997	89.5	99.1	98.4
December.....	476,841	480,405	366,348	89.2	100.0	97.9

<sup>1</sup> The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

For 1914 and 1904 the spring months show the greatest activity in the combined industries of the state, the maximum number of wage earners for 1914 appearing for March and the minimum number for December, while in 1904 the maximum number was reported for April and the minimum for July.

The year 1909 shows a different season of activity, the maximum number being employed in December and the minimum in January. The greatest difference between the maximum and minimum months in any one of the three census years was 66,127 in 1909. The average monthly employment of wage earners in 1914 was 510,435; in 1909, 446,934; and in 1904, 364,298.

Table 10 gives the total average number of wage earners employed during 1914, together with the total number employed on the 15th of each month, or the nearest representative day, for the combined industries of the state, for a number of selected industries, and for the total industries of each of the 43 cities having more than 10,000 inhabitants.

Of the selected industries, canning and preserving, because of its seasonal character, shows the greatest degree of fluctuation, the number of wage earners employed in February being but 12.8 per cent of the number in September. In the manufacture of steam-railroad cars the number reported for December was but 51.3 per cent of the number reported for January, while in the glass industry the number reported for August was only 54.1 per cent of that for April. The greatest stability of employment is shown for flour-mill and gristmill products, printing and publishing, and tobacco manufactures, the percentages which the minimum formed of the maximum being 94.8, 97.4, and 95, respectively. Of the 43 cities, Middletown

and Portsmouth show the greatest fluctuation, the proportion which the minimum formed of the maximum being 32.4 per cent and 53 per cent, respectively, while the most steady employment of wage earners is

shown for Coshocton and East Liverpool, the proportion which the minimum number formed of the maximum for the former being 96.4 per cent and for the latter 93.8 per cent.

Table 10

WAGE EARNERS: 1914.  
[Month of maximum employment for each industry is indicated by **boldface** figures and that of minimum by *italic* figures.]

INDUSTRY AND CITY.	Average number employed during year.	Number employed on the 15th day of the month or nearest representative day.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	510,435	511,055	524,603	534,537	533,186	523,653	518,316	506,133	506,991	510,037	501,396	478,412	476,841	89.2
Agricultural implements.....	5,464	6,620	<b>6,793</b>	6,758	6,383	5,592	5,468	5,210	5,300	4,801	4,175	<i>4,132</i>	4,327	60.8
Automobiles, including bodies and parts.....	18,752	17,204	17,944	18,766	19,188	18,460	17,640	<i>17,232</i>	18,209	18,745	20,529	20,188	<b>20,829</b>	82.7
Boots and shoes, including cut stock and findings.....	14,674	14,648	<b>16,385</b>	15,219	<i>11,633</i>	13,903	15,346	15,642	15,400	14,374	14,006	14,679	14,853	71.0
Boxes, fancy and paper.....	2,456	2,522	2,588	2,603	2,565	2,447	2,460	2,381	2,413	2,405	2,422	2,385	<i>2,281</i>	87.6
Brass, bronze, and copper products.....	2,277	2,156	2,355	2,408	<b>2,573</b>	2,448	2,378	2,216	2,218	2,238	2,134	<i>2,096</i>	2,104	81.5
Bread and other bakery products.....	7,665	<i>7,370</i>	7,467	7,477	7,508	7,568	7,771	7,840	7,761	<b>7,846</b>	7,816	7,798	7,758	93.9
Brick, tile, pottery, and other clay products.....	27,334	<i>24,861</i>	25,094	26,136	27,911	29,123	<b>29,276</b>	28,609	28,945	28,772	27,664	26,190	25,427	84.9
Canning and preserving.....	2,507	1,020	<i>990</i>	1,080	1,076	1,336	2,226	1,863	4,765	<b>7,739</b>	4,826	1,986	1,177	12.8
Carriages and wagons and materials.....	5,997	6,198	6,514	6,765	<b>6,771</b>	6,543	6,243	5,814	5,704	5,515	5,389	<i>5,220</i>	5,288	77.1
Cars and general shop construction and repairs by steam-railroad companies.....	21,639	21,847	22,070	22,371	20,953	21,006	<i>20,207</i>	21,620	21,829	22,637	22,271	21,619	21,238	89.3
Cars, steam-railroad, not including operations of railroad companies.....	2,885	<b>3,915</b>	3,445	3,311	3,042	3,440	3,055	3,073	2,132	2,304	2,281	2,614	<i>2,008</i>	51.3
Chemicals.....	2,017	2,158	2,063	2,130	2,106	1,978	1,960	1,980	<i>1,896</i>	1,974	1,959	2,005	1,995	87.9
Clothing, men's, including shirts.....	10,758	10,994	11,266	<b>11,374</b>	11,351	11,084	10,680	10,502	10,500	10,420	10,420	10,431	<i>10,074</i>	88.6
Clothing, women's.....	9,775	9,507	10,717	<b>10,740</b>	10,286	8,889	8,980	9,936	10,613	10,550	10,309	8,895	<i>7,878</i>	73.4
Confectionery.....	3,149	2,889	2,886	2,989	2,902	2,771	2,568	<i>2,451</i>	2,938	3,799	<b>4,178</b>	3,861	3,556	58.7
Copper, tin, and sheet-iron products.....	7,448	7,612	7,683	7,753	<b>7,784</b>	7,680	7,480	7,212	7,493	7,633	<i>7,463</i>	<i>6,730</i>	6,853	86.5
Cutlery and tools, not elsewhere specified.....	3,199	3,422	3,422	3,473	3,448	3,302	3,170	3,254	3,253	3,086	2,960	2,831	<i>2,767</i>	79.7
Electrical machinery, apparatus, and supplies.....	12,695	13,819	13,040	13,175	13,081	12,602	12,737	12,357	12,587	12,379	12,571	12,104	<i>11,888</i>	86.0
Flour-mill and gristmill products.....	2,363	2,350	2,342	2,352	2,348	2,301	<i>2,299</i>	2,382	2,425	2,420	2,374	2,379	2,384	94.8
Foundry and machine-shop products.....	73,103	76,180	77,408	<b>77,865</b>	77,292	76,349	75,219	73,241	72,212	69,592	68,454	<i>66,698</i>	66,726	85.6
Furniture and refrigerators.....	7,831	8,291	8,440	8,555	8,371	8,182	7,732	<i>7,150</i>	7,659	7,465	7,505	7,414	7,208	83.6
Glass.....	10,997	12,182	12,065	12,810	13,290	12,204	11,207	8,147	<i>7,192</i>	9,653	10,185	11,103	11,326	54.1
Hosiery and knit goods.....	3,411	3,685	3,646	3,709	3,646	3,567	3,502	3,400	3,179	3,166	3,261	<i>3,081</i>	3,090	83.1
Iron and steel, blast furnaces.....	5,786	6,277	6,199	6,449	<b>6,630</b>	6,440	6,262	5,698	5,781	5,537	5,195	<i>4,456</i>	4,508	67.2
Iron and steel, steel works and rolling mills.....	46,397	47,117	49,467	<b>51,727</b>	50,869	46,394	47,493	47,420	46,984	47,006	45,152	<i>36,646</i>	40,490	70.8
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.....	2,365	2,354	2,477	2,525	<b>2,586</b>	2,490	2,411	2,369	2,368	2,295	2,247	2,172	<i>2,086</i>	80.7
Iron and steel forgings, not made in steel works or rolling mills.....	2,308	2,598	2,622	<b>2,697</b>	2,639	2,449	2,172	2,075	<i>2,008</i>	2,075	2,163	2,044	2,154	74.5
Iron and steel, wrought, pipe.....	2,285	1,951	2,571	<b>2,736</b>	2,630	2,322	2,352	2,425	2,430	2,164	<i>1,868</i>	1,905	2,066	68.3
Liquors, malt.....	5,340	4,931	<i>4,910</i>	4,930	5,103	5,374	5,897	6,028	5,909	5,610	5,237	5,121	5,030	81.4
Lumber and timber products.....	11,921	11,299	11,327	11,986	12,540	<b>12,802</b>	12,753	12,453	12,073	11,905	11,580	11,383	<i>10,951</i>	85.5
Marble and stone work.....	2,523	2,368	2,252	2,389	2,748	<b>2,765</b>	2,690	2,679	2,636	2,692	2,474	<i>2,247</i>	2,336	81.3
Paint and varnish.....	2,107	2,056	2,168	2,247	2,267	2,269	2,227	2,075	2,059	2,005	1,972	<i>1,969</i>	1,970	86.8
Paper and wood pulp.....	5,480	5,456	5,479	<b>5,534</b>	5,480	5,494	<b>5,534</b>	5,338	5,427	5,499	5,508	5,307	<i>5,104</i>	92.2
Paper goods, not elsewhere specified.....	2,269	<b>2,380</b>	2,338	2,362	2,349	2,308	2,286	2,239	2,185	<i>2,184</i>	2,202	2,185	2,210	91.8
Printing and publishing.....	18,070	18,323	18,232	18,246	18,184	18,092	17,985	17,966	<i>17,841</i>	17,864	18,048	17,999	18,060	97.4
Rubber goods, not elsewhere specified.....	21,705	<i>19,479</i>	21,577	23,524	25,400	<b>25,439</b>	22,558	21,657	20,025	20,410	20,246	20,118	20,018	76.6
Shipbuilding, including boat building.....	2,879	3,175	3,431	3,566	3,443	3,209	2,852	2,890	2,752	2,444	2,077	<i>2,070</i>	2,633	58.2
Slaughtering and meat packing.....	3,610	3,755	3,619	3,557	3,453	3,458	3,545	3,580	3,473	<i>3,452</i>	3,513	3,725	<b>4,298</b>	80.3
Stoves and furnaces, including gas and oil stoves.....	8,575	8,209	9,042	9,045	<b>9,073</b>	8,672	8,887	<i>7,856</i>	8,151	8,405	8,701	8,456	8,403	86.6
Tobacco manufactures.....	13,282	13,270	<b>13,731</b>	13,641	13,374	13,168	13,059	<i>13,052</i>	13,176	13,149	13,253	13,202	13,309	95.0
All other industries.....	95,178	94,508	95,998	97,557	<b>98,901</b>	97,733	97,749	94,821	95,090	95,828	94,808	90,963	<i>88,180</i>	89.2
Total for cities.....	387,632	391,398	403,049	409,376	405,222	397,183	391,124	384,892	382,764	379,827	376,238	366,240	<i>364,228</i>	.....
AKRON.....	24,680	<i>22,831</i>	24,676	26,839	<b>28,774</b>	28,407	25,371	24,159	22,912	23,081	23,004	23,120	22,976	79.3
ALLIANCE.....	2,333	2,384	2,326	2,339	2,373	2,366	2,488	2,668	2,555	2,289	2,111	<i>2,061</i>	2,139	80.2
ASHTABULA.....	1,868	<i>1,678</i>	1,628	1,784	1,878	1,860	1,929	1,966	2,087	2,084	2,055	1,854	1,715	75.6
BARBERTON.....	3,118	3,262	3,339	3,423	3,332	3,190	3,064	3,050	2,950	3,085	3,023	2,928	<i>2,779</i>	81.2
BELLAIRE.....	2,608	<b>2,832</b>	2,685	2,809	2,810	2,678	2,599	2,488	2,533	2,428	2,439	2,474	2,461	85.7
CAMBRIDGE.....	1,455	1,712	1,759	1,784	1,570	1,231	1,355	1,562	1,500	1,495	1,262	<i>1,112</i>	1,118	62.3
CANTON.....	12,255	12,213	12,119	12,500	12,724	12,418	12,353	11,654	12,199	12,642	<b>12,763</b>	<i>11,689</i>	11,873	91.3
CHILLICOTHE.....	1,557	1,549	1,552	1,461	1,375	1,478	1,647	1,684	1,838	1,822	1,438	1,419	1,425	74.8
CINCINNATI.....	59,861	61,805	<b>62,782</b>	62,567	60,516	61,169	60,767	59,582	59,349	57,596	<i>57,193</i>	57,199	57,594	91.0
CLEVELAND.....	108,317	105,431	107,769	<b>108,913</b>	107,955	103,952	103,094	101,861	100,840	101,721	98,662	<i>98,406</i>	98,406	90.4
COLUMBUS.....	17,236	17,140	17,800	<b>18,056</b>	17,807	17,774	17,619	16,951	16,875	16,838	16,697	<i>16,580</i>	16,694	91.8
COSHOCTON.....	1,614	1,591	1,613	1,636	1,638	1,626	1,599	<i>1,681</i>	1,593	1,593	1,640	1,630	1,633	96.4
DAYTON.....	24,061	25,417	25,313	25,382	25,428	<b>25,663</b>	25,151	24,479	23,435	22,785	22,478	<b>22,080</b>	<i>21,171</i>	82.5
EAST CLEVELAND.....	129	<i>107</i>	142	139	131	129	118	121	132	158	140	121	115	67.7
EAST LIVERPOOL.....	4,830	4,771	4,830	<b>4,943</b>	4,935	4,891	4,905	4,693	4,845	4,879	4,807	4,797	4,721	93.8
ELYRIA.....	2,735	2,679	2,774	2,941	3,024	<b>3,061</b>	2,775	2,609	2,616	2,618	2,655	<i>2,482</i>	2,586	81.1
FINDLAY.....	1,737	<i>1,646</i>	1,764	1,700	1,728	1,770	1,782	1,784	1,791	1,729	1,700	1,714	1,736	91.9
FOSTORIA.....	1,252	1,274	1,290	1,359	1,384	1,279	1,195	<i>1,124</i>	1,164	1,188	1,218	1,274	1,275	81.2
FREMONT.....	2,093	<i>1,881</i>	2,082	2,199	2,148	2,110	1,992	1,936	2,055	2,146	2,217	2,078	1,913	84.8
HAMILTON.....	6,043	<b>6,642</b>	6,503	6,342	6,304	6,167	5,982	5,799	5,654	5,857	5,866	<i>5,648</i>	5,663	85.0

## MANUFACTURES—OHIO.

Table 10—Continued.

WAGE EARNERS: 1914.  
[Month of maximum employment for each industry is indicated by **boldface** figures and that of minimum by *italic* figures.]

INDUSTRY AND CITY.	Average number employed during year.	Number employed on the 15th day of the month or nearest representative day.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
IRONTON.....	1,420	1,500	1,572	<b>1,671</b>	1,490	1,560	1,659	1,451	1,451	1,277	1,306	<i>1,009</i>	1,094	60.4
LAKEWOOD.....	1,774	1,744	1,713	1,751	1,766	1,750	1,696	<i>1,671</i>	1,767	1,815	1,880	<b>1,906</b>	1,843	87.7
LANCASTER.....	1,583	<i>1,473</i>	1,515	1,524	1,564	1,613	1,657	<b>1,693</b>	1,662	1,636	1,583	1,544	1,544	87.0
LIMA.....	4,876	4,407	4,787	4,801	4,961	4,953	4,987	5,067	5,150	<b>5,330</b>	5,202	4,674	<i>4,286</i>	89.4
LORAIN.....	6,486	7,150	7,593	<b>7,874</b>	7,653	6,766	6,355	6,733	5,901	5,726	5,150	<i>4,945</i>	5,389	62.8
MANSFIELD.....	3,398	3,208	3,476	3,617	<b>3,712</b>	3,569	3,483	3,481	3,561	3,559	3,204	<i>2,923</i>	2,949	78.7
MARIETTA.....	1,401	1,448	1,468	1,443	1,569	1,523	1,535	1,407	1,444	<i>1,212</i>	1,256	1,260	1,307	79.0
MARION.....	2,577	2,684	2,814	<b>2,846</b>	2,814	2,691	2,497	2,490	2,560	2,423	2,370	2,370	<i>2,365</i>	83.1
MASSILLON.....	1,768	1,747	1,896	1,935	1,957	1,944	1,964	1,883	1,643	1,643	1,648	1,680	<i>1,376</i>	65.0
MIDDLETOWN.....	4,003	4,072	4,084	4,279	<b>4,362</b>	4,198	3,989	3,945	3,948	3,970	3,920	<i>3,594</i>	3,675	82.4
MOUNT VERNON.....	772	784	781	791	<b>818</b>	792	764	733	752	768	808	752	<i>721</i>	88.1
NEWARK.....	4,583	4,368	4,663	4,710	4,722	4,666	<b>4,765</b>	<i>4,302</i>	4,719	4,695	4,675	4,442	4,369	90.3
NORWOOD.....	5,808	5,746	5,695	5,886	6,015	6,042	<b>6,047</b>	5,901	5,787	5,850	5,710	5,544	<i>5,475</i>	90.5
PIQUA.....	2,777	2,701	2,867	<b>2,948</b>	2,933	2,895	2,724	<i>2,596</i>	2,796	2,733	2,749	2,706	2,677	88.1
PORTSMOUTH.....	3,597	2,995	<b>4,456</b>	4,072	<i>2,360</i>	2,597	3,746	4,016	3,915	3,675	3,774	3,751	3,809	53.0
SANDUSKY.....	2,727	<i>2,612</i>	2,625	2,671	<b>2,910</b>	2,757	2,734	2,769	2,727	2,727	2,707	2,817	2,669	89.8
SPRINGFIELD.....	7,868	<b>8,836</b>	8,727	8,752	8,372	7,802	7,852	7,747	7,770	7,569	7,448	<i>6,739</i>	7,004	70.3
STUEBENVILLE.....	4,506	3,945	4,826	4,878	4,945	<b>4,991</b>	4,824	4,563	4,493	4,446	4,228	<i>3,490</i>	3,490	69.9
TIFFIN.....	2,177	2,202	2,215	2,241	<b>2,268</b>	2,226	2,232	2,207	2,077	2,164	<i>2,047</i>	2,104	2,143	90.2
TOLEDO.....	27,076	27,080	27,161	27,847	27,431	27,051	25,827	<i>25,504</i>	26,574	28,295	28,037	27,299	26,806	90.1
WARREN.....	2,862	<b>2,992</b>	2,986	2,985	2,891	<i>2,777</i>	2,844	2,799	2,843	2,809	2,790	2,803	2,816	92.8
YOUNGSTOWN.....	15,861	16,310	17,198	<b>17,449</b>	16,669	15,682	16,072	16,712	17,119	15,458	14,589	13,583	<i>13,491</i>	77.3
ZANESVILLE.....	3,035	<i>2,649</i>	3,185	<b>3,289</b>	3,280	3,106	3,106	3,245	2,772	3,017	2,881	2,915	2,979	80.5

Prevailing hours of labor.—In Table 11 the average number of wage earners reported for 1914 and 1909 for all industries combined and for selected industries throughout the state have been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed.

A similar classification is given for 1914 only, for all industries combined, in each city having more than 10,000 inhabitants. The number employed in each establishment is classified as a total, even though a few employees worked a greater or smaller number of hours.

Table 11

INDUSTRY AND CITY.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.							
		Total.	In establishments where the prevailing hours of labor per week were—						
			48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	Over 72.
All industries.....	1914	510,435	69,975	78,201	116,627	126,649	89,552	15,815	9,501
	1909	446,934	31,977	29,296	88,915	130,852	131,853	14,484	8,714
Agricultural implements.....	1914	5,464	10	593	811	3,519	531	.....	.....
	1909	5,997	195	1,294	387	2,354	1,767	.....	.....
Automobiles, including bodies and parts.....	1914	18,752	476	10,128	2,674	4,963	501	.....	.....
	1909	12,130	2	64	4,469	6,055	1,051	489	.....
Boots and shoes, including cut stock and findings.....	1914	14,674	828	103	6,121	7,364	258	.....	.....
	1909	16,026	190	305	2,608	9,106	3,817	.....	.....
Boxes, fancy and paper.....	1914	2,456	329	149	1,594	219	165	.....	.....
	1909	2,530	112	430	339	1,208	441	.....	.....
Brass, bronze, and copper products.....	1914	2,277	484	422	543	651	75	102	.....
	1909	2,232	30	36	831	1,114	94	127	.....
Bread and other bakery products.....	1914	7,665	758	328	3,787	493	1,969	243	62
	1909	5,972	589	149	1,007	512	3,244	299	132
Brick, tile, pottery, and other clay products.....	1914	27,334	2,195	2,904	7,939	3,757	10,407	182	.....
	1909	23,985	2,498	2,725	4,690	1,587	12,279	139	67
Canning and preserving.....	1914	2,507	90	86	870	345	1,094	5	17
	1909	2,009	208	18	79	149	1,555	.....	.....
Carriages and wagons and materials.....	1914	5,997	828	589	1,115	2,013	1,452	.....	.....
	1909	8,815	641	651	1,634	1,993	3,896	.....	.....
Cars and general shop construction and repairs by steam-railroad companies.....	1914	21,639	8,512	3,164	5,025	730	857	3,189	102
	1909	20,728	1,718	2,660	3,057	6,273	4,094	1,509	1,417
Cars, steam-railroad, not including operations of railroad companies.....	1914	2,585	.....	929	98	1,858	.....	.....	.....
	1909	2,282	.....	121	279	1,830	52	.....	.....
Chemicals.....	1914	2,017	380	.....	.....	859	266	1	508
	1909	1,132	2	.....	3	164	586	13	34
Clothing, men's, including shirts.....	1914	10,758	3,610	4,728	2,240	142	38	.....	.....
	1909	9,950	1,300	2,023	5,428	1,090	109	.....	.....
Clothing, women's.....	1914	9,775	903	7,385	1,457	3	27	.....	.....
	1909	8,843	456	1,146	5,242	1,952	47	.....	.....

Table 11—Continued.

Table 11—Continued.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.								
		Total.	In establishments where the prevailing hours of labor per week were—							
			48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
Confectionery.....	1914	3,149	251	343	1,899	532	114	8		2
	1909	2,493	322	342	280	280	1,266		3	
Copper, tin, and sheet-iron products.....	1914	7,448	1,100	1,018	2,173	2,238	824	95		
	1909	6,598	549	167	1,384	1,250	3,000			248
Cutlery and tools, not elsewhere specified.....	1914	3,199	73	1,600	96	1,347	83			
	1909	2,820	40	11	118	2,007	644			
Electrical machinery, apparatus, and supplies.....	1914	12,695	657	3,850	4,098	3,795	295			
	1909	8,073	20	1,086	2,430	3,071	1,452		14	
Flour-mill and gristmill products.....	1914	2,363	115	18	216	105	1,683	168	58	
	1909	2,585	207	53	56	66	1,571	378	253	1
Foundry and machine-shop products.....	1914	73,103	6,097	9,976	15,013	30,976	11,009	32		
	1909	64,817	809	2,508	11,087	28,233	21,845	314	21	
Furniture and refrigerators.....	1914	7,831	624	1,543	845	2,591	2,228			
	1909	8,232	196	345	1,266	2,660	3,765			
Glass.....	1914	10,997	784	4,515	2,916	198	2,276	118	190	
	1909	10,159	1,797	2,279	1,726	2,501	1,139	652	65	
Hosiery and knit goods.....	1914	3,411	64	205	3,035	107				
	1909	3,149	10	45	921	1,019	1,154			
Iron and steel, blast furnaces.....	1914	5,786					918	580	1,577	2,711
	1909	7,295						606	1	6,688
Iron and steel, steel works and rolling mills.....	1914	46,397	3,303	2,013	2,961	8,094	20,551	4,453	4,997	25
	1909	38,586	1,483	44	5,442	7,260	13,352	6,296	4,709	
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works and rolling mills.....	1914	2,365	341	7	60	1,957				
	1909	2,797			270	539	1,988			
Iron and steel forgings, not made in steel works or rolling mills.....	1914	2,308	449	234	244	1,174	41	166		
	1909	2,002	188		168	682	690	274		
Iron and steel, wrought pipe.....	1914	2,285			176	1,083	1,026			
	1909	1,081				273	808			
Liquors, malt.....	1914	5,340	4,287	59	619	143	232			
	1909	4,356	2,309	1	1,479	89	471	7		
Lumber and timber products.....	1914	11,921	855	806	3,076	3,423	3,744			17
	1909	13,456	704	358	2,802	2,238	7,348	2	4	
Marble and stone work.....	1914	2,523	403	96	422	287	1,314	1		
	1909	2,012	341	61	478	19	1,001	44	68	
Paint and varnish.....	1914	2,107	82	319	235	925	546			
	1909	1,535	53	267	198	520	497			
Paper and wood pulp.....	1914	5,430			829	344	820	2,042	1,376	19
	1909	4,673				468	1,498	1,233	1,456	18
Paper goods, not elsewhere specified.....	1914	2,269	5	102	1,957	69	78	58		
	1909	2,040	40	19	853	200	928			
Printing and publishing.....	1914	18,070	12,587	1,826	2,453	1,055	149			
	1909	15,756	6,888	1,951	4,670	1,485	744	18		
Rubber goods, not elsewhere specified.....	1914	21,705	3,057	5,848	99	12,297	64	340		
	1909	10,382		843	4,080	5,158	301			
Shipbuilding, including boat building.....	1914	2,879	9	11	327	794	1,738			
	1909	3,200	3	16	131	375	2,675			
Slaughtering and meat packing.....	1914	3,619	111	27	635	528	2,317			1
	1909	3,086	26	6	484	90	2,333	67	80	
Stoves and furnaces, including gas and oil stoves.....	1914	8,575	2,844	1,066	893	2,400	1,432			
	1909	7,274	336	350	1,539	3,116	1,933			
Tobacco manufactures.....	1914	13,282	4,490	1,959	6,280	464	85	4		
	1909	12,631	4,327	2,431	938	2,806	2,113	10	3	3
All other industries.....	1914	95,178	7,984	9,302	30,796	22,807	18,345	4,078	823	1,043
	1909	83,215	3,388	4,491	16,062	29,060	24,305	2,496	1,382	2,081
Total for cities.....	1914	387,632	58,020	69,074	92,241	99,594	47,747	10,568	7,079	3,309
AKRON.....	1914	24,680	4,188	5,936	953	11,573	580	1,095	20	35
ALLIANCE.....	1914	2,333	306	11	1,136	107	711	62		
ASHTABULA.....	1914	1,868	265	25	852		615	105		6
BARBERTON.....	1914	3,118	6	19	1,201	1,245	642		1	4
BELLAIRE.....	1914	2,603	118	19	1,099	469	36		862	
CAMBRIDGE.....	1914	1,455	180	491	615	136	27		4	2
CANTON.....	1914	12,255	1,400	811	1,555	7,579	566	261		83
CHILLICOTHE.....	1914	1,557	27	59	401	637	198	5	226	4
CINCINNATI.....	1914	59,861	11,975	13,526	16,330	12,713	4,410	840	30	37
CLEVELAND.....	1914	103,317	17,103	20,680	24,581	19,409	16,556	411	2,746	1,831
COLUMBUS.....	1914	17,236	5,611	1,614	3,965	4,702	1,255	63	7	19
COSHOCOTON.....	1914	1,614	57	240	1,206	49	21	3	30	8
DAYTON.....	1914	24,061	2,335	1,451	8,492	10,041	1,605	126	2	9
EAST CLEVELAND.....	1914	129	2		14	104	1		8	
EAST LIVERPOOL.....	1914	4,830	1,590	614	2,359	66	146	41		14

## MANUFACTURES—OHIO.

Table 11—Continued.

INDUSTRY AND CITY.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.							
		Total.	In establishments where the prevailing hours of labor per week were—						
			48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72. Over 72.
ELYRIA.....	1914	2,735	25	988	167	762	429	361	3
FINDLAY.....	1914	1,737	104	124	925	115	326	143	.....
FOSTORIA.....	1914	1,252	145	269	163	321	350	4	.....
FREMONT.....	1914	2,003	193	118	241	1,190	318	.....	3
HAMILTON.....	1914	6,043	797	99	506	2,580	926	1,057	78
IRONTON.....	1914	1,420	236	81	319	183	412	3	.....
LAKEWOOD.....	1914	1,774	35	1,238	13	77	404	.....	186
LANCASTER.....	1914	1,583	40	3	1,190	224	59	4	63
LMA.....	1914	4,876	98	719	1,882	1,906	259	9	3
LORAIN.....	1914	6,436	287	20	43	16	1,657	4,123	200
MANSFIELD.....	1914	3,398	300	469	1,456	1,006	160	.....	3
MARIETTA.....	1914	1,401	58	22	523	178	608	12	.....
MARION.....	1914	2,577	1,383	154	802	26	132	6	5
MASSILLON.....	1914	1,768	57	354	744	509	98	6	.....
MIDDLETOWN.....	1914	4,003	44	29	1,088	417	2,041	304	78
MOUNT VERNON.....	1914	772	33	58	11	623	43	.....	4
NEWARK.....	1914	4,583	72	892	1,688	1,778	187	8	.....
NORWOOD.....	1914	5,808	1,069	1,338	2,707	656	33	5	.....
PIQUA.....	1914	2,777	31	357	1,219	239	764	140	24
PORTSMOUTH.....	1914	3,597	94	.....	208	2,809	343	23	.....
SANDUSKY.....	1914	2,727	415	66	785	710	400	220	127
SPRINGFIELD.....	1914	7,868	1,010	1,227	471	4,601	508	38	.....
STEBENVILLE.....	1914	4,506	729	533	33	150	2,063	235	17
TIFFIN.....	1914	2,177	31	498	331	883	404	30	.....
TOLEDO.....	1914	27,076	2,258	13,645	6,399	2,675	1,300	739	54
WARREN.....	1914	2,862	1,665	40	444	627	68	5	.....
YOUNGSTOWN.....	1914	15,861	1,384	94	2,384	3,930	4,784	40	2,382
ZANESVILLE.....	1914	3,035	264	143	670	1,213	702	41	2

The table shows, for the state as a whole and for most of the individual industries, the tendency toward a shortening of the working day of wage earners. In 1909, 165,894, or more than one-third of the total average number of wage earners for all industries combined, were employed in establishments where the prevailing hours of labor were 60 or more per week; in 1914 but 118,983, or about one-fifth, were employed in such establishments. The proportion of wage earners employed in establishments where the prevailing hours of work were fewer than 60 per week increased from 281,040, or 62.9 per cent of the total, in 1909, to 391,452, or 76.7 per cent, in 1914. For all industries combined, and for a number of the separate industries, there was a marked increase during the five-year period in the proportion of wage earners in each of the three classes from 48 hours and under to 54 hours per week. Among the separate industries, decreases in the hours of employment are shown for automobiles, including bodies and parts; boots and shoes, including cut stock and findings; foundry and machine-shop products; and hosiery and knit goods.

Of the combined total average number of wage earners, 387,632, for the 43 cities in 1914, 318,929, or 82.3 per cent, were in establishments where the prevailing hours were less than 60 per week, while only 20,956, or 5.4 per cent, were in establishments in which the hours of labor were more than 60 per week. In both Cincinnati and Cleveland the greatest number of wage earners in any class were employed in establishments operating 54 hours a week. In only two of the cities, Marion and Warren, were the greatest number employed in establishments where the prevailing hours of labor were 48 and under a week.

**Location of establishments.**—Table 12 shows, for 1914, 1909, and 1899, the extent to which the manufactures in Ohio are centralized in the 43 cities having more than 10,000 inhabitants.

In accepting the figures in this table it must be remembered that some of the cities—Barberton, Coshocton, East Cleveland, Fostoria, Fremont, and Mount Vernon—that had a population of 10,000 and over at the census of 1914, were included in the districts outside of the cities at prior censuses. Lakewood, while having a population in 1909 of over 10,000, was also included in the districts outside of the cities, to avoid disclosure of the operations of individual establishments. In 1909 Portsmouth and Steubenville each had less than 25,000 inhabitants, but during the five-year period 1909–1914 the population of each increased, so that they are now in the group of cities having between 25,000 and 100,000 inhabitants. It is apparent, therefore, that the figures in this table are not strictly comparable. The table shows, however, that for 1914 the cities, which represented 49.1 per cent of the estimated population of the state, reported 61.2 per cent of the number of establishments, 75.9 per cent of the total average number of wage earners, 77.4 per cent of the value of products, and 79.3 per cent of the value added by manufacture. Of the total value of products shown for the state in 1914, 10.5 per cent was reported from the 27 cities having between 10,000 and 25,000 inhabitants; 21.6 per cent from the 11 cities having between 25,000 and 100,000; and 45.3 per cent from the 5 cities having more than 100,000 inhabitants. Of the total average number of wage earners, 63.7 per cent were employed in cities having a population of 25,000 and over.

Table 12

Table 12	Census year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 OR OVER.								DISTRICTS OUTSIDE OF CITIES HAVING A POPULATION OF 10,000 OR OVER.	
			Total.		10,000 to 25,000.		25,000 to 100,000.		100,000 and over.			
			Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.
Number of places.....	1914 1910 1900	..... ..... .....	43 36 28	..... ..... .....	27 22 19	..... ..... .....	11 9 5	..... ..... .....	5 5 4	..... ..... .....	..... ..... .....	
Population <sup>1</sup> .....	1914 1910 1900	5,026,898 4,767,121 4,157,545	2,468,149 2,130,013 1,512,007	49.1 44.7 36.4	414,314 345,803 305,089	8.3 7.2 7.4	499,742 393,371 241,866	9.9 8.3 5.8	1,554,093 1,390,839 965,052	30.9 29.2 23.2	2,558,749 2,637,108 2,645,538	50.9 55.3 63.6
Number of establishments.....	1914 1909 1899	15,658 15,138 13,868	9,588 8,763 6,990	61.2 57.9 50.4	1,590 1,366 1,299	10.1 9.0 9.4	1,639 1,207 1,034	10.5 8.0 7.4	6,359 6,190 4,657	40.6 40.9 33.6	6,070 6,375 6,878	38.8 42.1 49.6
Average number of wage earners	1914 1909 1899	510,435 446,934 308,109	387,632 323,131 220,141	75.9 72.3 71.4	62,341 53,624 40,530	12.2 12.0 13.1	93,740 67,742 42,794	18.4 15.2 13.9	231,551 201,765 136,817	45.4 45.1 44.4	122,803 123,803 87,968	24.1 27.7 28.5
Value of products.....	1914 1909 1899	\$1,782,808,279 1,437,935,817 748,670,855	\$1,380,537,449 1,074,492,138 540,823,420	77.4 74.7 72.2	\$187,888,018 156,321,801 84,434,579	10.5 10.9 11.3	\$385,642,109 283,054,022 108,630,809	21.6 19.7 14.5	\$807,007,322 635,116,315 347,758,032	45.3 44.2 46.4	\$402,270,830 363,443,679 207,847,435	22.6 25.3 27.8
Value added by manufacture...	1914 1909 1899	762,026,264 613,733,870 339,368,354	604,253,617 468,164,822 251,523,607	79.3 76.3 74.1	86,583,678 68,825,229 40,462,166	11.4 11.2 11.9	157,346,303 107,359,766 48,808,752	20.6 17.5 14.4	360,323,636 291,979,827 162,252,689	47.3 47.6 47.8	157,772,647 145,569,048 87,844,747	20.7 23.7 25.9

<sup>1</sup> Census estimate of population for 1914.

The relative importance in manufactures in each of the 43 cities having more than 10,000 inhabitants, as measured by average number of wage earners and by value of products, in 1914, 1909, and 1904, is shown in Table 13. The cities are listed in the order of their importance as shown by value of products. Those for which comparative figures are not shown for 1909 and 1904 had less than 10,000 inhabitants in those years.

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1914	1909	1904	1914	1909	1904
Cleveland.....	103,317	84,728	64,041	\$352,418,052	\$271,960,833	\$171,923,636
Cincinnati.....	59,861	60,182	58,584	210,860,386	192,515,692	166,059,050
Akron.....	24,680	15,831	9,626	122,291,600	73,158,206	33,559,243
Toledo.....	27,076	18,878	15,697	115,049,426	61,229,542	44,501,292
Youngstown.....	15,861	10,498	8,095	92,111,272	61,270,747	46,853,307
Dayton.....	24,061	21,549	17,093	71,071,374	60,378,376	39,596,773
Columbus.....	17,236	16,428	14,350	57,608,084	49,031,872	39,590,132
Canton.....	12,255	9,964	5,938	43,713,446	28,582,811	10,591,143
Lorain.....	6,436	6,697	3,102	29,110,037	38,986,996	14,491,091
Springfield.....	7,868	7,405	6,258	27,721,789	19,246,141	13,381,767
Middletown.....	4,003	2,576		21,787,151	16,516,785	
Steubenville.....	4,506	4,267	4,134	16,958,987	21,187,127	12,369,677
Hamilton.....	6,043	6,895	6,107	16,877,260	18,183,693	13,810,901
Norwood.....	5,808	3,907		16,724,360	9,684,332	
Bellaire.....	2,603	2,597		12,170,206	10,091,554	
Lima.....	4,876	3,607	2,733	11,598,580	7,753,877	4,827,556
Warren.....	2,862	1,798		10,399,737	5,988,174	
Mansfield.....	3,398	3,204	3,021	10,281,968	8,172,911	7,353,578
Newark.....	4,583	3,913	3,627	9,276,762	7,851,118	5,612,587
Barberton.....	3,118			8,843,422		
Elyria.....	2,735	2,673		8,791,734	8,064,914	
Zanesville.....	3,035	12,932	3,098	8,300,231	8,020,433	6,347,387
Sandusky.....	2,727	2,118	2,323	8,284,865	5,946,853	4,878,563
Piqua.....	2,777	2,683	2,044	7,988,279	6,930,672	4,035,706
Portsmouth.....	3,597	3,728	4,072	7,682,145	7,276,893	6,645,112
Alliance.....	2,333	2,524		7,174,766	6,135,429	
East Liverpool.....	4,830	4,873	5,228	7,092,903	6,629,076	6,437,090
Marion.....	2,577	2,619	1,721	6,384,864	5,666,976	3,227,712
Fostoria.....	1,252			6,124,679		
Massillon.....	1,768	1,934	1,995	5,293,124	4,787,772	3,707,013
Ashtabula.....	1,868	1,471	846	5,020,991	3,458,612	1,895,454
Tiffin.....	2,177	1,632	1,645	4,995,880	3,254,328	2,434,502
Fremont.....	2,063			4,779,982		
Ironton.....	1,420	1,920	1,800	4,666,185	7,118,259	4,755,304
Findlay.....	1,737	1,376	1,343	4,662,778	3,486,793	2,925,309
Lancaster.....	1,583	1,532		4,602,615	4,074,004	
Marletta.....	1,401	1,288	1,314	4,128,618	3,214,553	2,599,287
Chillicothe.....	1,557	1,674	1,553	4,083,486	4,345,224	3,146,890
Cambridge.....	1,455	1,230		3,923,786	4,290,560	
Lakewood.....	1,774	(2)		3,606,498		
Coshocton.....	1,614			3,476,686		
Mount Vernon.....	772			2,302,669		
East Cleveland.....	129			295,786		

<sup>1</sup> Figures do not agree with those published, because it was necessary to revise them in order to include data only for those establishments located within the corporate limits of the city.

<sup>2</sup> Figures can not be shown without disclosing individual operations.

Of the 28 cities for which comparative figures are given for 1904, 1909, and 1914, 13 show an increase in both average number of wage earners and in value of products for each five-year period. All except Lorain, Steubenville, Hamilton, Ironton, and Chillicothe show an increase in value of products at each census. The percentages of increase, however, were generally smaller from 1909 to 1914 than from 1904 to 1909.

The principal industries in the cities having 50,000 inhabitants and over in 1914, for which statistics can be presented separately, are shown in Table 14. The industries are listed in the order of their importance as measured by value of products, and show the absolute and relative increase from 1909 to 1914, and the percentage which the value of products for each industry represents of the corresponding total for the state.

CITY AND INDUSTRY.	VALUE OF PRODUCTS.			
	Amount.	Per cent of industry total for the state.	Increase over 1909. <sup>1</sup>	
			Amount.	Per cent.
AKRON.				
Rubber goods, not elsewhere specified.....	\$92,547,496	84.4	\$43,218,261	87.6
Foundry and machine-shop products.....	3,946,859	2.2	1,698,800	75.6
Printing and publishing.....	1,938,085	3.5	-414,825	-17.6
Brick, tile, pottery, and other clay products.....	1,488,387	3.8	-2,033	-0.1
Food preparations, not elsewhere specified.....	(2)	(2)	(2)	(2)
Automobiles, including bodies and parts.....	(2)	(2)	(2)	(2)
CANTON.				
Foundry and machine-shop products.....	8,041,277	4.5	3,149,871	64.4
Agricultural implements.....	1,105,135	6.3	285,964	34.9
Iron and steel, steel works and rolling mills.....	(2)	(2)	(2)	(2)
Copper, tin, and sheet-iron products.....	(2)	(2)	(2)	(2)
Rubber goods, not elsewhere specified.....	(2)	(2)	(2)	(2)
Sales and vaults.....	(2)	(2)	(2)	(2)
CINCINNATI.				
Slaughtering and meat packing.....	23,350,037	35.0	4,029,800	20.9
Foundry and machine-shop products.....	21,121,789	11.8	2,742,131	14.9
Boots and shoes, including cut stock and findings.....	15,329,293	45.6	330,621	2.2
Clothing, men's, including shirts.....	15,104,838	54.7	-1,870,090	-11.0

(See notes at end of table.)



## MANUFACTURES—OHIO.

CITY AND INDUSTRY.	VALUE OF PRODUCTS.				CITY AND INDUSTRY.	VALUE OF PRODUCTS.			
	Amount.	Per cent of industry total for the state.	Increase over 1909. <sup>1</sup>			Amount.	Per cent of industry total for the state.	Increase over 1909. <sup>1</sup>	
			Amount.	Per cent.				Amount.	Per cent.
CINCINNATI—Continued.					DAYTON—Continued.				
Printing and publishing.....	\$13,386,881	24.1	\$1,867,763	16.2	Cash registers and calculating machines....				
Liquors, malt.....	10,352,807	32.3	1,479,300	16.7	Cars, steam-railroad, not including operations of railroad companies.....				
Bread and other bakery products.....	6,385,676	20.9	1,283,083	25.1	Electrical machinery, apparatus, and supplies.....	(2)	(2)	(2)	(2)
Copper, tin, and sheet-iron products.....	5,569,751	22.2	2,795,154	100.7	Automobiles, including bodies and parts..				
Carriages and wagons and materials.....	5,565,061	34.4	-1,259,654	-18.5	Coffee, roasting and grinding.....				
Leather, tanned, curried, and finished.....	5,425,725	46.7	366,805	7.3	Sewing machines and attachments.....				
Paint and varnish.....	4,517,386	23.4	637,576	16.4	Paint and varnish.....				
Liquors, distilled.....	(2)	(2)	(2)	(2)	Bread and other bakery products.....				
CLEVELAND.					SPRINGFIELD.				
Foundry and machine-shop products.....	50,951,012	28.5	13,507,973	36.1	Foundry and machine-shop products.....	\$5,790,250	3.2	(3)	(3)
Iron and steel, steel works and rolling mills.....	33,388,829	16.3	-5,074,487	-13.2	Agricultural implements.....	5,761,511	33.0	(3)	(3)
Automobiles, including bodies and parts.....	27,116,595	31.6	5,712,669	26.7	Printing and publishing.....	3,452,782	6.2	(3)	(3)
Slaughtering and meat packing.....	24,737,218	37.1	7,545,170	43.9	Automobiles, including bodies and parts..				
Clothing, women's.....	16,243,292	71.0	3,454,517	27.0	Electrical machinery, apparatus, and supplies.....	(2)	(2)	(3)	(3)
Printing and publishing.....	13,985,626	25.2	4,350,943	45.2	Flour-mill and gristmill products.....				
Electrical machinery, apparatus, and supplies.....	11,357,538	31.4	7,321,730	181.4	TOLEDO.				
Paint and varnish.....	10,092,979	52.2	3,954,513	64.4	Foundry and machine-shop products.....	7,855,075	4.4	\$831,091	11.8
Clothing, men's, including shirts.....	9,545,782	34.6	3,592,461	60.3	Coffee, roasting and grinding.....	5,889,320	44.2	(2)	(2)
Stoves and furnaces, including gas and oil stoves.....	8,620,601	43.1	3,643,505	73.2	Flour-mill and gristmill products.....	5,815,388	12.9	153,197	2.7
Bread and other bakery products.....	6,907,608	22.6	2,176,959	46.0	Electrical machinery, apparatus, and supplies.....	3,229,882	8.9	2,297,659	246.5
Iron and steel, blast furnaces.....	(2)	(2)	(2)	(2)	Printing and publishing.....	2,900,828	5.4	986,494	49.2
COLUMBUS.					Liquors, malt.....	2,474,913	7.7	587,569	31.1
Foundry and machine-shop products.....	6,959,036	3.9	-784,708	-10.1	Clothing, women's.....	2,433,570	10.6	110,152	4.7
Boots and shoes.....	5,224,348	15.5	-211,361	-3.9	Bread and other bakery products.....	2,307,211	7.5	709,256	44.4
Printing and publishing.....	3,527,674	6.3	867,472	32.6	Copper, tin, and sheet-iron products.....	2,029,356	8.1	726,113	55.7
Liquors, malt.....	3,207,419	10.3	569,276	20.9	Automobiles, including bodies and parts..				
Slaughtering and meat packing.....	3,210,921	4.8	856,474	36.4	Tobacco, cigars.....	(2)	(2)	(2)	(2)
Cars and general shop construction and repairs by steam-railroad companies.....	(2)	(2)	(2)	(2)	Iron and steel, blast furnaces.....				
DAYTON.					Glass.....				
Foundry and machine-shop products.....	6,859,021	3.8	81,198	1.2	YOUNGSTOWN.				
Slaughtering and meat packing.....	4,830,647	7.2	1,659,731	52.3	Iron and steel, steel works and rolling mills..	48,796,464	23.8	-1,378,689	-2.7
Tobacco manufactures.....	2,065,431	7.2	162,902	8.6	Foundry and machine-shop products.....	7,235,241	4.0	2,369,936	48.7
Lumber and timber products.....	1,899,216	6.0	482,172	34.0	Lumber and timber products.....	1,010,128	3.2	57,187	6.0
Printing and publishing.....	1,773,518	3.2	221,367	14.3	Iron and steel, blast furnaces.....				
					Iron and steel, wrought pipe.....	(2)	(2)	(2)	(2)
					Rubber goods, not elsewhere specified.....				
					Furniture.....				

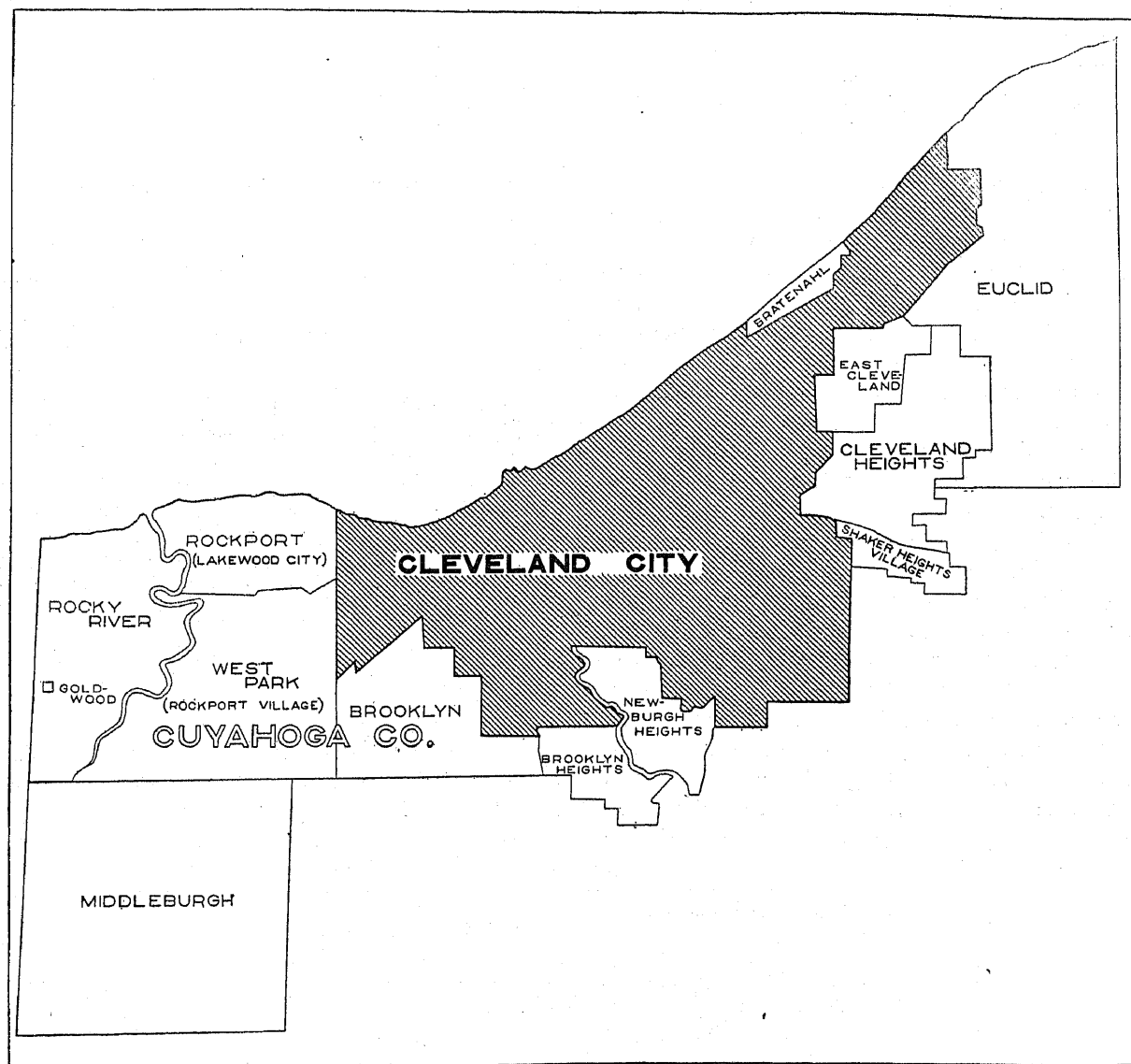
<sup>1</sup> A minus sign (—) denotes decrease.<sup>2</sup> Figures can not be shown separately without disclosing the operations of individual establishments.<sup>3</sup> Figures not available.

The following statement gives the principal industries in the cities of Ohio having from 10,000 to 50,000 inhabitants in 1914. The industries are arranged according to their rank as to value of products.

CITY.	Principal industries.	CITY.	Principal industries.	CITY.	Principal industries.
Alliance.....	Foundry and machine-shop products. Iron and steel, steel works and rolling mills.	Hamilton.....	Paper and wood pulp, paper mills exclusively. Foundry and machine-shop products. Safes and vaults.	Mount Vernon..	Foundry and machine-shop products. Flour-mill and gristmill products.
Ashtabula.....	Leather, tanned, curried, and finished. Cars and general shop construction and repairs, by steam-railroad companies.	Ironton.....	Iron and steel, blast furnaces. Wire.	Newark.....	Glass. Stoves and furnaces, including gas and oil stoves.
Barberton.....	Matches. Foundry and machine-shop products. Rubber goods, not elsewhere specified.	Lakewood.....	Electrical machinery, apparatus, and supplies. Lumber and timber products.	Norwood.....	Printing and publishing. Paper goods, not elsewhere specified. Electrical machinery, apparatus, and supplies. Furniture and refrigerators. Foundry and machine-shop products. Tinware, not elsewhere specified.
Bellaire.....	Iron and steel, steel works and rolling mills. Iron and steel, blast furnaces. Glass.	Lancaster.....	Boots and shoes, including cut stock and findings.	Piqua.....	Hosiery and knit goods. Felt goods.
Cambridge.....	Iron and steel, steel works and rolling mills. Glass.	Lima.....	Locomotives, not made by railroad companies. Tobacco manufactures. Slaughtering and meat packing.	Portsmouth....	Boots and shoes.
Chillicothe.....	Paper and wood pulp. Flour-mill and gristmill products.	Lorain.....	Iron and steel, steel works and rolling mills. Iron and steel, blast furnaces. Shipbuilding.	Sandusky.....	Paper goods, not elsewhere specified. Foundry and machine-shop products.
Coshocton.....	Signs and advertising novelties. Furnishing goods, men's.	Mansfield.....	Agricultural implements. Brass, bronze, and copper products.	Steubenville....	Iron and steel, steel works and rolling mills. Iron and steel, blast furnaces. Tin plate and terneplate.
East Cleveland..	Furniture.	Marietta.....	Leather goods, not elsewhere specified. Furniture.	Tiffin.....	Foundry and machine-shop products. Brick, tile, pottery, and other clay products. Copper, tin, and sheet-iron work.
East Liverpool..	Brick, tile, pottery, and other clay products.	Marion.....	Foundry and machine-shop products. Silk goods.	Warren.....	Iron and steel, steel works and rolling mills. Foundry and machine-shop products. Electrical machinery, apparatus, and supplies. Tin plate and terneplate.
Elyria.....	Automobiles. Chemicals.	Massillon.....	Agricultural implements. Foundry and machine-shop products.	Zanesville.....	Iron and steel, wrought pipe. Brick, tile, pottery, and other clay products.
Findlay.....	Automobiles. Petroleum, refining.	Middletown....	Iron and steel, steel works and rolling mills. Tobacco manufactures. Paper and wood pulp, paper mills exclusively. Motorcycles, bicycles, and parts.		
Fostoria.....	Flour-mill and gristmill products. Automobiles, including bodies and parts.				
Fremont.....	Electrical machinery, apparatus, and supplies. Cutlery and tools, not elsewhere specified.				

**Cleveland metropolitan district.**—The metropolitan district of Cleveland, which was eighth in the United States in importance of manufactures in 1914, embraces 103,174 acres of territory, of which 33,004 acres constituted the area of Cleveland. The area of the metropolitan district was the same in 1914 as in 1909. It includes, in addition to Cleveland, Bratenahl, Brooklyn, Brooklyn Heights, Cleveland Heights, East Cleveland, Euclid, Goldwood, Middleburgh, Newburgh city (annexed to Cleveland in 1915), Newburgh Heights,

Rockport, Rocky River, Shaker Heights Village (organized from a part of Cleveland Heights Village in 1911), and West Park townships in Cuyahoga County. The incorporated places of over 10,000 inhabitants within the district besides Cleveland are East Cleveland, which is coextensive with East Cleveland township, and Lakewood, which is coextensive with Rockport township. The estimated population of Cleveland in 1914 was 639,431, and that of the outside territory 56,192, the total for the district being 695,623.



The above outline map shows, for 1914, the territory and the cities and towns that are included in the metropolitan district of Cleveland.

*Summary for the district.*—Table 15 is a summary for 1914 of the statistics of manufacturing industries, with a statement of the estimated population for 1914, of the cities of Cleveland, East Cleveland, and Lakewood, and of the remainder of the district. The percentages which the figures for Cleveland represent of the total for the district are shown for each item.

In 1914 there were 2,432 manufacturing establishments in the Cleveland metropolitan district, which gave employment to 127,702 persons during the year and paid out \$96,590,837 in salaries and wages. Of the persons employed, 107,420 were wage earners. Products valued at \$363,664,188 were reported, to produce which materials costing \$204,039,634 were used. The value added by manufacture was thus \$159,624,554.

Table 15

Table 15	CLEVELAND METROPOLITAN DISTRICT: 1914.						Per cent Cleveland is of total for district.
	The district.	Cleveland.	District exclusive of Cleveland.				
			Total.	East Cleveland.	Lakewood.	Remainder.	
Population <sup>1</sup> .....	695,623	639,431	56,192	11,914	20,219	24,059	91.9
Number of establishments.....	2,432	2,345	87	7	22	58	95.4
Persons engaged.....	127,702	122,758	4,944	153	2,217	2,574	96.1
Proprietors and firm members.....	1,753	1,093	60	7	16	37	95.6
Salaried employees.....	18,529	17,748	781	17	427	337	95.8
Wage earners (average number).....	107,420	103,317	4,103	129	1,774	2,200	96.2
Primary horsepower.....	296,737	277,066	19,671	397	2,909	16,305	93.4
Capital.....	\$326,587,839	\$312,908,950	\$13,678,883	\$288,804	\$4,463,959	\$8,926,060	95.8
Salaries and wages.....	96,590,837	92,868,865	3,721,972	99,706	1,561,464	2,060,742	96.1
Salaries.....	26,641,984	25,518,086	1,123,898	18,373	539,470	566,055	95.8
Wages.....	69,948,853	67,350,779	2,598,074	81,393	1,021,994	1,494,687	96.3
Paid for contract work.....	1,764,923	1,748,342	16,581	.....	420	16,161	99.1
Rent and taxes.....	6,827,391	6,679,749	147,642	3,545	97,648	46,449	97.8
Cost of materials.....	204,039,634	198,492,504	5,547,070	147,190	1,603,936	3,795,944	97.3
Value of products.....	363,664,188	352,418,052	11,246,136	295,786	3,606,498	7,343,852	96.9
Value added by manufacture (value of products less cost of materials).....	159,624,554	153,925,488	5,699,066	148,596	2,002,562	3,547,908	96.4

<sup>1</sup> Estimated population, July 1, 1914.

The great bulk of the value of the manufactured products was reported by the factories within the central city. Cleveland contained 91.9 per cent of the population of the district and contributed 96.9 per cent of the value of products. The proportions which each of the items relating to manufactures forms of the corresponding totals for the district range from 93.4 per cent for primary horsepower to 97.3 per cent for cost of materials.

*Comparison with earlier censuses.*—Table 16 is a comparative summary of the statistics of the Cleveland metropolitan district as a whole, for 1914, 1909, and 1904, together with the per cent of increase for the decade and for each five-year period.

The table shows an increase in every item, except proprietors and firm members, during the five-year period 1909–1914; the percentages of increase were smaller, however, than for the five-year period 1904–1909. For the decade, and for each five-year period, the largest increases appear for salaries and number of salaried employees. During the period 1909 to 1914 the population of the district increased by 13.4

per cent, while value of products increased by 29 per cent.

Table 16

	CLEVELAND METROPOLITAN DISTRICT.			PER CENT OF INCREASE. <sup>1</sup>		
	1914	1909	1904	1904-1914	1909-1914	1904-1909
Population.....	<sup>2</sup> 695,623	<sup>3</sup> 613,270	( <sup>4</sup> )	.....	13.4	.....
Number of establishments.....	2,432	2,230	1,720	41.4	9.1	23.7
Persons engaged.....	127,702	103,709	76,071	66.6	23.1	35.3
Proprietors and firm members.....	1,753	1,771	1,529	14.7	-1.0	15.8
Salaried employees.....	18,529	12,850	7,341	152.4	44.2	75.0
Wage earners (average number).....	107,420	89,088	67,801	58.4	20.6	31.4
Primary horsepower.....	296,737	216,166	159,297	86.3	37.3	35.7
Capital.....	\$326,587,839	\$236,911,140	\$164,691,287	98.3	37.9	43.8
Salaries and wages.....	96,590,837	66,805,430	44,216,685	118.4	44.6	51.1
Salaries.....	20,641,984	16,150,153	8,850,707	200.7	65.0	82.3
Wages.....	69,948,853	50,655,277	35,366,918	97.8	38.1	43.3
Cost of materials.....	204,039,634	159,896,454	100,783,886	102.5	27.6	58.7
Value of products.....	363,664,188	281,992,131	179,184,277	103.0	20.0	67.4
Value added by manufacture (value of products less cost of materials).....	159,624,554	122,095,677	78,400,391	103.6	30.7	55.7

<sup>1</sup> A minus sign (—) denotes decrease.<sup>2</sup> Estimated, July 1, 1914.<sup>3</sup> Apr. 15, 1910.<sup>4</sup> No population census.

*Comparative summary, by industries.*—Table 17 gives statistics for 1914 and 1909 for certain selected industries so far as separate figures can be presented.

Table 17

INDUSTRY.	Census year.	CLEVELAND METROPOLITAN DISTRICT.											
		Number of establishments.	Persons engaged in industry.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
All industries.....	1914 1909	2,432 2,230	127,582 103,709	1,633 1,771	18,529 12,850	107,420 89,088	296,737 210,166	\$326,587,839 236,911,140	\$26,641,984 16,150,153	\$69,948,853 50,655,277	\$204,039,634 159,896,454	\$363,664,188 281,992,131	\$159,624,554 122,095,677
Automobiles, including bodies and parts.	1914 1909	36 32	7,977 7,115	15 20	956 687	7,006 6,408	10,867 9,135	23,633,040 16,600,162	1,741,395 875,471	5,371,159 4,022,846	14,731,674 10,417,034	27,116,505 21,403,925	12,384,921 10,986,892
Bread and other bakery products.	1914 1909	232 210	2,305 1,732	233 213	444 267	1,628 1,252	1,803 14	2,954,338 2,619,019	536,776 312,142	1,235,596 820,767	3,961,787 2,766,268	6,987,148 4,812,449	3,025,361 2,046,181
Clothing, men's and women's.	1914 1909	174 189	12,102 9,392	191 210	1,366 1,019	10,545 8,163	1,720 1,117	11,767,832 8,259,271	2,219,229 1,499,768	5,413,103 3,998,818	12,782,471 9,699,257	25,789,274 18,742,066	13,006,803 9,042,839
Electrical machinery, apparatus, anti supplies.	1914 1909	<sup>1</sup> 40 <sup>1</sup> 40	4,016 1,899	18 20	672 301	3,326 1,578	4,831 1,980	11,330,192 3,308,386	878,805 346,012	1,943,238 760,159	5,891,571 1,780,067	11,357,538 4,035,808	2,465,967 2,265,741
Foundry and machine-shop products.	1914 1909	270 239	25,718 20,622	106 125	3,185 2,357	22,427 18,140	39,338 24,759	59,549,161 42,445,280	5,141,308 3,187,777	15,272,872 10,624,367	21,103,305 15,559,650	51,418,818 37,929,051	30,315,513 22,369,401
Iron and steel, steel works and rolling mills.	1914 1909	<sup>2</sup> 15 <sup>2</sup> 14	9,086 8,278	2 2	935 738	8,149 7,538	70,844 60,575	38,988,491 25,086,577	1,508,773 848,567	6,049,623 5,149,604	24,552,310 28,039,016	33,388,829 38,463,316	8,836,519 10,424,300

<sup>1</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.<sup>2</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

Table 17—Continued.

## CLEVELAND METROPOLITAN DISTRICT.

INDUSTRY.	Census year.	Number of establishments.	Persons engaged in industry.				Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaries and employees.	Wage earners (average number).							
Liquors, malt.....	1914	12	1,240	5	179	1,056	0,554	\$10,541,109	\$421,063	\$304,651	\$1,858,339	\$0,528,168	\$4,069,829
	1909	11	904	5	155	744	3,395	9,887,715	357,945	593,579	1,484,143	5,124,478	3,040,335
Lumber and timber products.	1914	53	2,106	19	178	1,909	6,139	2,429,374	240,647	1,208,660	3,346,596	5,410,562	2,063,966
	1909	56	1,528	26	155	1,347	5,959	2,647,529	177,296	799,965	2,869,205	4,299,586	1,430,381
Printing and publishing.....	1914	279	5,701	190	1,496	4,015	5,166	8,154,848	2,032,907	3,447,881	4,163,414	14,014,686	9,851,272
	1909	250	4,088	176	1,398	3,114	3,334	6,957,828	1,505,926	2,013,158	2,782,781	9,648,012	6,865,231
Slaughtering and meat packing.	1914	46	1,691	45	242	1,404	3,229	6,491,772	300,562	959,552	22,522,306	24,977,759	2,455,453
	1909	35	1,336	28	232	1,076	2,570	3,555,435	259,535	599,489	15,398,662	17,192,048	1,793,386
Stoves and furnaces, including gas and oil stoves.	1914	27	3,327	8	408	2,911	2,981	5,012,387	602,248	1,870,597	4,260,943	8,620,601	4,359,658
	1909	20	2,097	7	247	1,843	1,899	4,092,596	281,126	1,155,072	2,286,206	4,977,096	2,690,890
All other industries.....	1914	1,248	52,313	801	8,468	43,044	143,265	145,735,235	11,018,271	26,366,921	34,864,918	148,054,210	63,189,292
	1909	1,134	44,118	939	5,294	37,885	101,429	111,451,942	6,498,588	20,117,453	66,814,165	115,364,265	48,550,100

<sup>1</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

There were 202 more establishments in the district in 1914 than in 1909, an increase of 9.1 per cent. The number of wage earners increased 18,332, or 20.6 per cent; value of products, \$81,672,057, or 29 per cent; and value added by manufacture, \$37,528,877, or 30.7 per cent.

In 1914 of the 11 industries shown separately in the table, foundries and machine shops ranked highest in value of products, with 14.1 per cent of the total reported for all industries in the district, followed by steel works and rolling mills, automobiles, including bodies and parts, and men's and women's clothing, with 9.2 per cent, 7.5 per cent, and 7.1 per cent, respectively.

The greatest relative gain in value of products during the period 1909-1914 was in the manufacture of electrical machinery, apparatus, and supplies, 181.4 per cent.

**Cincinnati metropolitan district.**—The metropolitan district of Cincinnati, which was eleventh in the United States in importance of manufactures in 1914, embraces 113,193 acres of territory, of which 44,615 acres constitute the area of Cincinnati. The changes in the area of Cincinnati city and of the metropolitan district since 1909 are due to annexation. The esti-

mated population of Cincinnati in 1914 was 402,175, and that of the outside territory 191,600, the total for the district being 593,775.

The metropolitan district comprises, in addition to Cincinnati, seven townships in Hamilton County, Ohio—Columbia, Delhi, Green, Miami, Millcreek, Springfield, and Sycamore, and seven magisterial districts in Kentucky, the first, second, third, and fourth in Campbell County and the first, second, and third in Kenton County.

The incorporated places of 10,000 inhabitants or over within the district besides Cincinnati are Norwood, Ohio; Newport, Ky., which comprises district 2 and part of district 1 in Campbell County; and Covington, Ky., which comprises district 1 and parts of districts 2 and 3 in Kenton County.

*Summary for the district.*—Table 18 is a summary for 1914 of the statistics of manufacturing industries, with a statement of the estimated population for 1914 of the cities of Cincinnati and Norwood in Ohio, and Covington and Newport cities, in Kentucky, and for the remainder of the district. The percentages which the figures for Cincinnati represent of the total for the district are shown for each item.

Table 18

## CINCINNATI METROPOLITAN DISTRICT: 1914.

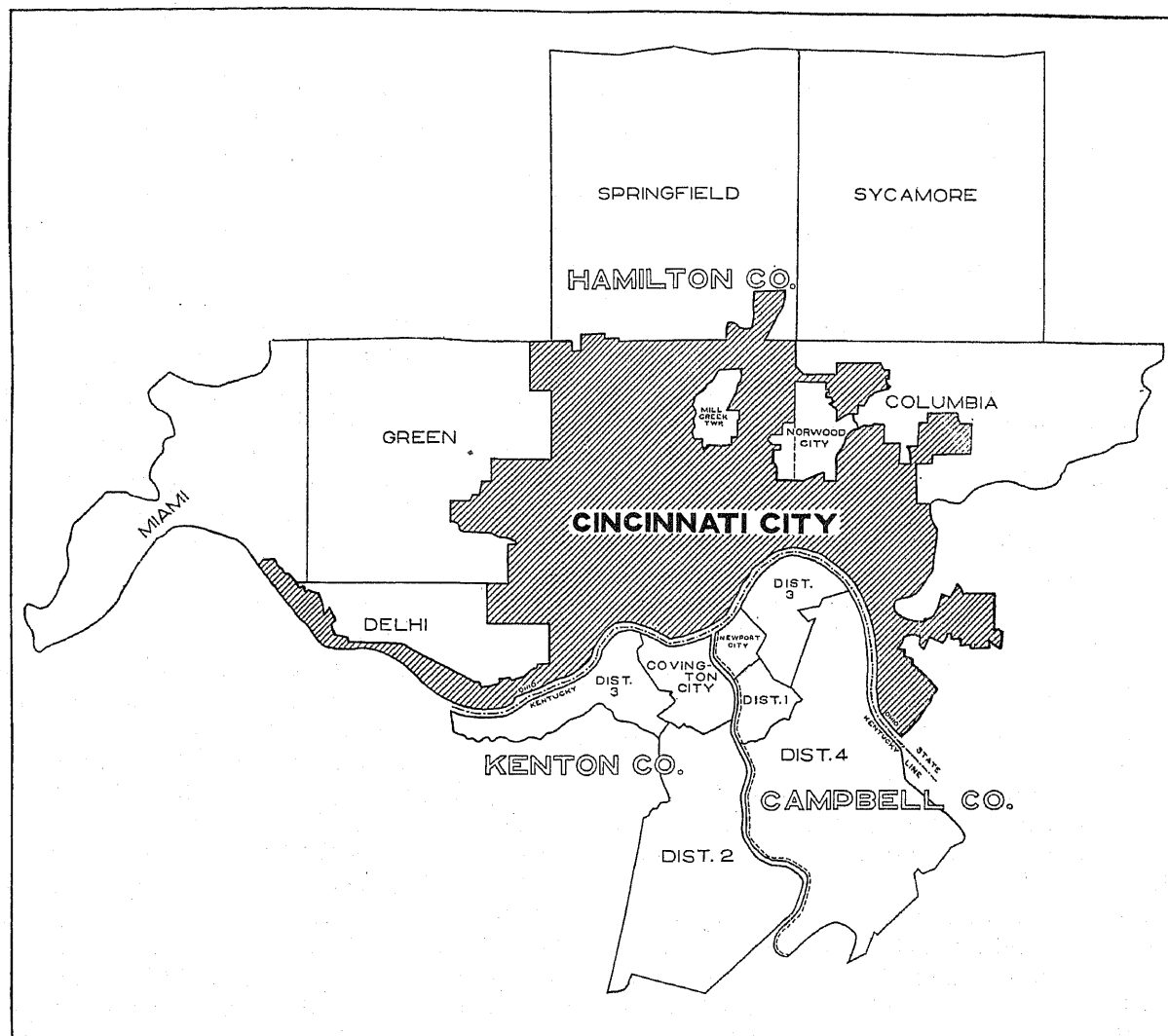
	The district.	Cincinnati.	District exclusive of Cincinnati.					Per cent Cincinnati is of total for district.
			Total.	Covington.	Newport.	Norwood.	Remainder.	
Population <sup>1</sup> .....	593,775	402,175	191,600	55,896	31,517	20,320	83,867	67.7
Number of establishments.....	2,629	2,135	494	161	100	58	175	81.2
Persons engaged.....	94,240	72,858	21,382	3,736	2,216	6,853	8,577	77.3
Proprietors and firm members.....	2,302	1,898	404	139	92	36	137	82.5
Salaries employees.....	13,759	11,099	2,660	398	244	1,009	1,009	80.7
Wage earners (average number).....	78,179	59,861	18,318	3,199	1,880	5,808	7,431	76.6
Primary horsepower.....	173,043	106,689	66,354	7,095	6,731	9,865	42,663	61.7
Capital.....	\$224,325,862	\$157,468,156	\$66,857,706	\$7,777,518	\$5,502,518	\$21,102,363	\$32,475,307	70.2
Salaries and wages.....	63,104,396	48,411,159	14,753,237	2,268,787	1,622,202	4,867,844	5,994,404	76.6
Salaries.....	18,679,661	15,252,076	3,427,585	453,604	334,633	1,253,862	1,385,486	81.7
Wages.....	44,484,735	33,159,083	11,325,652	1,815,183	1,287,569	3,613,982	4,608,918	74.5
Paid for contract work.....	1,928,176	1,859,195	68,981	31,057	11,381	13,328	13,215	96.4
Rent and taxes.....	12,113,790	10,022,590	2,091,200	932,993	268,724	666,354	223,129	82.7
Cost of materials.....	161,551,734	114,106,634	47,445,150	3,729,637	4,852,509	7,216,950	31,646,054	70.6
Value of products.....	287,816,191	210,860,386	76,955,805	8,265,496	8,305,609	16,724,360	43,660,340	73.3
Value added by manufacture (value of products less cost of materials).....	126,264,407	96,753,752	29,510,655	4,535,859	3,453,100	9,507,410	12,014,286	76.6

<sup>1</sup> Estimated population, July 1, 1914.

The accompanying outline map shows, for 1914, the territory and the cities and towns that are included in the metropolitan district of Cincinnati.

In 1914 there were 2,629 manufacturing establishments in the Cincinnati metropolitan district, which gave employment to 94,240 persons during the year

and paid out \$63,164,396 in salaries and wages. Of the persons employed, 78,179 were wage earners. These establishments manufactured products valued at \$287,816,191, to produce which materials were used costing \$161,551,784. The value added by manufacture was thus \$126,264,407.



The greater part of the value of manufactured products for the Cincinnati district was reported by the establishments within the central city. Cincinnati contained over 67.7 per cent of the population of the district and contributed 73.3 per cent of the value of products. Its manufacturing establishments constituted 81.2 per cent of the total number in the district and gave employment to 76.6 per cent of the wage earners. Of the places outside Cincinnati for which separate statistics are given, Norwood had the largest value of products, representing 5.8 per cent of the total for the district. The districts outside of incorporated places having 10,000 or more inhabitants had a combined population equal to 14.1 per cent of the total for the district and contributed 15.2 per cent of the value of its products.

*Comparison with earlier censuses.*—Table 19 is a comparative summary of the statistics of the Cincinnati metropolitan district as a whole, for 1914, 1909,

and 1904, together with the per cent of increase for the decade and for each five-year period.

**Table 19**

	CINCINNATI METROPOLITAN DISTRICT.			PER CENT OF INCREASE. <sup>1</sup>		
	1914	1909	1904	1904-1914	1909-1914	1904-1909
Population.....	2 593,775	2 563,804	(*)	.....	5.3	.....
Number of establishments.....	2,629	2,827	2,600	1.1	-7.0	8.7
Persons engaged.....	94,240	95,571	85,147	10.7	-1.4	12.2
Proprietors and firm members.....	2,302	2,593	2,587	-11.0	-11.2	0.2
Salaried employees.....	13,759	12,046	9,825	40.0	8.8	28.7
Wage earners (average number).....	78,179	80,332	72,735	7.5	-2.7	10.4
Primary horsepower.....	173,043	140,254	91,798	88.5	23.4	52.8
Capital.....	\$224,325,862	\$212,558,409	\$170,760,226	31.4	5.5	24.5
Salaries and wages.....	63,164,396	57,337,552	44,862,069	40.8	10.2	27.8
Salaries.....	18,679,661	15,601,542	10,922,512	70.9	19.7	42.7
Wages.....	44,484,735	41,736,010	33,939,557	31.1	6.6	23.0
Cost of materials.....	161,551,784	139,107,051	102,721,628	57.3	16.1	35.4
Value of products.....	287,816,191	260,399,619	203,095,605	41.7	10.5	28.2
Value added by manufacture (value of products less cost of materials)....	126,264,407	121,292,558	100,373,977	25.8	4.1	20.8

<sup>1</sup> A minus sign (-) denotes decrease.

<sup>2</sup> Estimated, July 1, 1914.

<sup>3</sup> Apr. 15, 1910.

<sup>4</sup> No population census.

In all items shown, except number of establishments, proprietors and firm members, and average number of wage earners, there were increases between 1909 and 1914, although the percentages of increase were smaller than for the five-year period 1904-1909. For the decade and for each five-year period the relative increase was greater for primary horsepower and for salaries

than for any other item. During the period 1909 to 1914 the population of the district increased 5.3 per cent, while value of products increased 10.5 per cent.

*Comparative summary, by industries.*—Table 20 gives statistics for 1914 and 1909 for certain selected industries so far as separate figures can be presented.

Table 20

## CINCINNATI METROPOLITAN DISTRICT.

INDUSTRY.	Census year.	CINCINNATI METROPOLITAN DISTRICT.											
		Number of establishments.	Persons engaged in industry.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture.
			Total.	Pro- pri- etors and firm mem- bers.	Salaried em- ployees.	Wage earn- ers (average num- ber).							
All industries.....	1914 1909	2,629 2,827	94,240 95,571	2,302 2,593	13,759 12,646	78,179 80,332	173,043 140,254	\$224,325,862 212,555,469	\$18,679,661 15,601,542	\$44,484,735 41,736,010	\$161,551,784 139,107,061	\$287,816,191 200,399,619	\$126,264,407 121,292,558
Boots and shoes, including cut stock and findings.	1914 1909	134 132	8,062 8,702	14 21	753 692	7,295 7,989	4,195 4,031	9,374,418 7,656,352	1,121,027 1,015,786	3,715,710 3,517,986	8,322,420 8,583,670	15,329,293 14,998,672	7,006,873 6,415,002
Bread and other bakery products.	1914 1909	239 264	2,430 2,017	252 268	349 252	1,829 1,497	1,633 955	4,334,629 2,865,239	376,256 240,612	1,028,185 817,761	4,079,788 3,305,179	7,003,550 5,691,232	2,923,762 2,296,053
Carriages and wagons and ma- terials.	1914 1909	89 99	2,193 3,370	92 86	313 433	1,788 2,851	2,863 3,325	4,771,707 6,020,606	405,372 455,415	1,220,153 1,621,880	3,147,252 4,367,976	5,524,566 8,157,665	2,477,314 3,789,689
Clothing, men's and women's.	1914 1909	200 327	8,699 10,033	239 412	1,084 1,176	7,376 8,445	1,930 952	9,509,016 11,650,797	1,492,730 1,428,600	3,529,320 3,590,197	8,810,601 10,223,289	18,005,884 20,559,186	9,195,283 10,335,897
Cooperage and wooden goods, not elsewhere specified.	1914 1909	23 20	643 697	23 17	41 48	579 632	1,561 1,269	1,139,659 1,445,850	62,647 75,438	344,932 291,804	868,003 766,016	1,472,116 1,232,289	604,113 466,273
Copper, tin, and sheet-iron products.	1914 1909	71 65	1,989 1,390	65 61	324 203	1,600 1,126	1,784 1,409	5,588,204 2,652,111	444,290 203,115	975,699 548,051	5,952,598 2,969,163	8,599,456 4,470,093	2,646,858 1,500,940
Fertilizers.....	1914 1909	5 5	561 442	..... .....	104 96	457 346	2,664 1,314	3,752,357 1,551,102	159,592 70,217	279,947 156,346	1,878,678 1,003,766	3,057,798 1,675,679	1,179,120 671,913
Flags, banners, regalia, so- ciety badges and emblems.	1914 1909	9 8	524 498	4 3	84 92	436 403	287 317	650,910 668,178	85,935 88,122	204,751 102,418	505,050 503,151	947,421 888,361	442,371 385,210
Flour-mill and gristmill prod- ucts.	1914 1909	12 11	108 124	9 8	35 38	64 78	1,272 1,062	708,580 570,850	42,162 42,339	45,479 53,614	1,296,760 1,432,174	1,483,538 1,035,493	186,778 203,319
Foundry and machine-shop products.	1914 1909	264 238	13,086 13,716	180 130	2,078 1,880	10,828 11,706	24,317 18,372	34,151,282 29,542,095	2,975,539 2,378,730	6,953,498 6,793,105	10,218,799 11,127,047	26,222,485 20,186,468	16,003,086 15,050,421
Furnishing goods, men's.....	1914 1909	10 10	306 302	11 13	49 45	246 244	72 14	183,007 288,746	56,738 50,618	91,689 76,599	393,830 509,649	672,434 760,348	278,604 250,099
Furniture and refrigerators....	1914 1909	55 63	3,151 3,059	66 68	351 237	2,734 2,754	5,300 5,079	5,691,168 4,953,600	460,148 291,900	1,451,417 1,422,175	2,339,873 2,338,774	5,643,267 5,646,080	3,303,394 3,307,306
Ice, manufactured.....	1914 1909	24 15	369 243	3 5	76 58	290 180	7,242 4,471	2,790,427 2,343,548	95,740 73,093	188,820 115,427	225,503 161,161	652,204 567,814	426,701 406,653
Leather goods.....	1914 1909	17 19	673 664	17 23	127 106	529 535	386 252	1,887,750 1,500,970	160,411 100,886	258,785 278,188	1,043,641 799,653	1,801,207 1,518,778	757,566 719,125
Lumber and timber products.	1914 1909	68 80	2,452 2,809	56 66	319 330	2,077 2,413	7,024 9,318	5,135,332 8,398,650	406,791 412,386	1,331,419 1,306,785	3,327,343 4,345,585	6,056,740 7,401,558	2,729,397 3,055,973
Marble and stone work.....	1914 1909	36 39	447 396	37 47	57 43	353 306	1,290 1,012	709,076 639,390	67,400 50,846	233,616 208,549	294,137 290,104	818,816 731,091	524,679 441,587
Printing and publishing.....	1914 1909	340 318	7,167 6,806	286 281	1,066 1,525	5,275 5,000	7,244 6,058	13,606,026 13,183,475	1,829,329 1,638,634	3,803,956 3,236,020	5,423,011 4,220,558	16,663,824 13,998,611	11,240,813 9,778,053
Slaughtering and meat packing	1914 1909	56 61	1,456 1,400	75 78	223 183	1,158 1,139	5,029 3,745	4,518,282 4,701,132	286,426 204,899	785,146 683,196	22,164,010 17,497,119	23,901,092 19,922,613	1,737,082 2,425,494
Tobacco manufactures.....	1914 1909	218 300	2,972 3,462	237 321	236 243	2,499 2,898	560 634	2,763,857 3,009,283	258,803 257,593	1,101,157 1,126,640	2,237,639 2,421,365	5,271,810 5,496,839	3,034,171 3,075,474
All other industries.....	1914 1909	859 853	36,952 35,441	636 685	5,550 4,966	30,766 29,790	96,390 76,065	113,000,175 108,918,435	7,891,725 6,522,253	16,941,056 15,728,669	79,022,848 62,151,672	138,588,690 118,860,149	59,565,842 56,708,477

<sup>1</sup> Excluding statistics for two establishments, to avoid disclosure of individual operations.

While there were decreases in the total number of establishments, proprietors, and firm members, and wage earners reported for the district during the census period 1909-1914, increases are shown for every other item. The principal industry of the district is foundry and machine-shop products, with slaughtering and meat packing, men's and women's clothing, printing and publishing, and boots and shoes

ranking next in the order named. Of these five leading groups, slaughtering and meat packing shows the greatest relative gain in value of products, there being an increase of 20 per cent since 1909. Printing and publishing follows with 19 per cent increase. The relative gains for the foundry and machine-shop and boot and shoe industries were very small, while there was a decrease of 12.4 per cent in the clothing industry.



## MANUFACTURES—OHIO.

Character of ownership.—Table 21 presents statistics concerning character of ownership, or legal organization, of manufacturing enterprises. For all industries combined, comparative figures are given for 1914, 1909, and 1904; for selected industries, statistics for

1914 and 1909 are shown; and for individual cities, the figures are for all industries combined and relate only to 1914. In order to avoid disclosing the operations of individual establishments it is necessary to omit several important industries from the table.

Table 21

Table 21		Cen- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
			Indi- vidu- als.	Cor- pora- tions.	All oth- ers.	Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
							Indi- vidu- als.	Cor- pora- tions.	All oth- ers.	Indi- vidu- als.	Cor- pora- tions.	All oth- ers.		Individ- uals.	Corpora- tions.	All others.	Indi- vidu- als.	Cor- pora- tions.	All oth- ers.				
All industries.....		1914	6,959	5,775	2,924	510,435	32,628	449,244	28,563	6.4	88.0	5.6	\$1,782,808,279	\$89,037,502	\$1,601,796,776	\$91,074,001	5.0	89.8	5.2				
		1909	6,978	5,123	3,037	446,934	34,345	378,473	34,116	7.7	84.7	7.6	1,437,935,817	88,075,465	1,249,778,444	100,081,908	6.1	86.9	7.0				
		1904	6,590	4,008	3,187	364,298	36,980	288,591	38,727	10.2	79.2	10.6	960,811,857	80,034,354	777,392,416	103,385,087	8.3	80.9	10.8				
Agricultural implements		1914	14	41	4	5,464	59	5,232	173	1.1	95.8	3.2	17,484,615	168,920	16,335,978	979,717	1.0	93.4	5.6				
		1909	10	41	4	5,997	51	5,798	148	0.8	96.7	2.5	14,440,461	122,107	13,792,458	525,896	0.8	95.5	3.6				
Automobiles, including bodies and parts.		1914	18	77	7	18,752	188	18,521	43	1.0	98.8	0.2	85,710,585	846,119	84,747,433	117,033	1.0	98.9	0.1				
		1909	10	52	13	12,130	147	11,755	228	1.2	96.9	1.9	38,838,754	227,816	37,002,042	1,608,896	0.6	95.3	4.1				
Boots and shoes, includ- ing cut stock and find- ings.		1914	7	58	8	14,674	381	14,072	221	2.6	95.9	1.5	33,641,705	604,945	32,280,752	756,008	1.8	96.0	2.2				
		1909	8	51	13	16,026	307	13,867	1,852	1.9	86.5	11.6	31,550,957	514,920	27,675,486	3,300,551	1.6	87.7	10.7				
Bread and other bakery products.		1914	1,318	81	235	7,665	3,246	3,566	853	42.3	46.5	11.1	30,560,881	12,755,385	14,279,550	3,525,946	41.7	46.7	11.5				
		1909	1,232	70	165	5,972	2,824	2,542	606	47.3	42.6	10.1	23,007,131	10,381,455	10,294,221	2,331,455	45.1	44.7	10.1				
Brick, tile, pottery, and other clay products.		1914	135	299	115	27,334	1,231	24,993	1,110	4.5	91.4	4.1	38,667,574	1,568,978	35,528,829	1,569,567	4.1	91.9	4.1				
		1909	228	304	171	23,985	1,729	20,845	1,411	7.2	86.9	5.9	30,531,002	2,060,316	26,500,683	1,880,003	6.7	87.1	6.2				
Butter, cheese, and con- densed milk.		1914	70	102	114	1,480	125	1,183	172	8.4	79.9	11.6	19,325,977	1,352,416	16,076,924	1,800,637	7.0	83.2	9.8				
		1909	87	72	166	1,067	163	701	203	15.3	65.7	19.0	9,689,670	1,592,131	5,874,514	2,223,025	16.4	60.6	22.9				
Carriages and wagons and materials.		1914	146	105	90	5,997	817	4,516	664	13.6	75.3	11.1	16,192,449	1,739,475	12,454,694	1,098,280	10.7	76.9	12.3				
		1909	183	127	97	8,515	1,256	6,395	1,164	14.2	72.5	13.2	21,949,459	2,345,765	16,744,853	2,858,841	10.7	76.3	13.0				
Clothing, men's, includ- ing shirts.		1914	131	63	63	10,758	2,146	5,484	3,128	19.9	51.0	29.1	27,621,829	3,372,090	14,071,519	10,178,220	12.2	50.9	36.0				
		1909	227	45	70	9,950	2,873	2,823	4,254	28.9	28.4	42.8	24,809,437	4,235,966	7,246,115	13,387,356	17.0	29.1	53.8				
Clothing, women's.....		1914	67	66	37	9,775	692	7,293	1,790	7.1	74.6	18.3	22,881,753	1,336,251	16,853,882	4,601,620	5.8	73.7	20.5				
		1909	62	47	44	8,843	589	5,810	2,444	6.7	65.7	27.6	19,493,060	750,916	13,534,496	5,207,648	3.9	69.4	26.7				
Coffee and spice, roast- ing and grinding.		1914	5	26	4	822	13	768	41	1.6	93.4	5.0	13,312,493	285,284	12,274,330	752,870	2.1	92.2	5.7				
		1909	5	27	7	762	23	618	121	3.0	81.1	15.9	11,224,437	302,060	9,911,609	1,010,768	2.7	88.3	9.0				
Confectionery.....		1914	44	60	28	3,149	270	2,514	365	8.6	79.8	11.6	10,133,602	562,041	8,746,206	825,355	5.5	80.3	8.1				
		1909	41	47	26	2,493	380	1,726	387	15.2	69.2	15.5	7,306,574	909,991	5,479,072	917,511	12.5	75.0	12.6				
Electrical machinery, apparatus, and sup- plies.		1914	20	87	12	12,695	88	12,482	125	0.7	98.3	1.0	36,120,978	257,038	35,520,772	343,168	0.7	98.3	1.0				
		1909	18	84	13	8,073	109	7,855	109	1.4	97.3	1.4	18,776,769	231,352	18,204,476	340,941	1.2	92.4	1.8				
Flour-mill and gristmill products.		1914	263	137	249	2,363	478	1,294	591	20.2	54.8	25.0	45,171,200	6,438,927	28,824,681	9,907,592	14.3	63.8	21.9				
		1909	280	121	272	2,585	604	1,310	671	23.4	50.7	26.0	48,093,353	8,472,566	27,975,576	11,645,211	17.6	58.2	24.2				
Foundry and machine- shop products.		1914	336	849	194	73,103	1,909	68,436	2,758	2.6	93.6	3.8	178,855,069	4,531,336	167,474,030	6,849,703	2.5	93.6	3.8				
		1909	283	762	173	64,817	2,108	59,838	2,871	3.3	92.3	4.4	145,836,648	4,727,124	134,759,000	6,350,524	3.2	92.4	4.4				
Furniture and refrigera- tors.		1914	61	112	40	7,831	777	6,507	547	9.9	83.1	6.9	16,687,466	1,358,558	14,213,038	1,115,870	8.1	85.2	6.7				
		1909	66	122	40	8,232	895	6,800	537	10.9	82.6	6.5	16,258,757	1,698,026	13,490,057	1,070,074	10.4	83.0	6.6				
Liquors, malt.....		1914	7	83	11	5,340	49	5,200	91	0.9	97.4	1.7	31,990,274	219,265	31,429,717	341,292	0.7	98.2	1.1				
		1909	12	83	10	4,356	141	4,010	205	3.2	92.1	4.7	25,332,059	644,346	23,130,542	1,557,171	2.5	91.3	6.1				
Lumber and timber prod- ucts.		1914	614	285	289	11,921	3,181	6,583	2,157	26.7	55.2	18.1	31,852,694	6,458,968	19,651,114	5,742,612	20.3	61.7	18.0				
		1909	753	285	352	13,456	3,797	7,086	2,623	28.2	52.3	19.5	34,597,069	7,708,569	20,765,660	6,122,840	22.3	60.0	17.7				
Printing and publishing.		1914	885	562	336	18,070	2,895	13,426	1,749	16.0	74.3	9.7	55,608,924	7,323,345	43,308,709	4,976,870	13.2	77.9	8.9				
		1909	829	483	343	15,756	2,745	10,832	2,179	17.4	68.7	13.8	41,657,306	6,510,373	29,673,914	5,473,019	15.6	71.2	13.2				
Slaughtering and meat packing.		1914	84	51	34	3,619	350	3,108	161	9.7	85.9	4.4	66,674,379	6,758,736	54,632,018	5,283,625	10.1	81.9	7.9				
		1909	80	47	31	3,086	463	2,475	148	15.0	80.2	4.8	50,804,100	7,690,049	39,069,555	4,044,490	15.1	76.9	8.0				
Tobacco manufactures...		1914	789	57	115	13,282	3,133	7,155	2,994	23.6	53.9	22.5	28,467,079	5,385,866	19,175,244	3,905,969	18.9	67.4	13.7				
		1909	963	46	137	12,631	3,259	6,621	2,751	25.8	52.4	21.8	28,907,269	5,121,142	20,070,332	3,715,795	17.7	69.4	12.9				
Total for cities.....		1914	4,029	4,004	1,555	387,632	23,040	343,180	21,412	5.9	88.5	5.5	1,380,537,449	61,914,475	1,251,814,236	66,808,738	4.5	90.7	4.8				
AKRON.....		1914	115	144	46	24,680	424	24,141	115	1.7	97.8	0.5	122,291,600	1,249,626	120,416,724	625,250	1.0	98.5	0.5				
ALLIANCE.....		1914	24	19	9	2,333	53	2,220	60	2.3	95.2	2.5	7,174,766	189,478	6,714,898	270,390	2.6	93.6	3.8				
ASHTABULA.....		1914	25	26	6	1,868	133	1,693	42	7.1	90.6	2.2	5,020,991	481,578	4,440,431	98,982	0.6	88.4	2.0				
BARBERTON.....		1914	17	10	7	3,118	50	3,050	18	1.6	97.8	0.6	8,843,422	188,073	8,539,623	115,726	2.1	96.6	1.3				
BELLAIRE.....		1914	21	13	6	2,603	303	2,281	19	11.6	87.6	0.7	12,170,206	401,225	11,608,030	160,951	3.3	95.4	1.0				
CAMBRIDGE.....		1914	12	18	9	1,455	36	1,394	25	2.5	95.8	1.7	3,923,786	107,104	3,699,907	140,775	2.7	93.5	3.7				
CANTON.....		1914	107	140	29	12,255	510	11,545	200	4.2	94.2	1.6	43,713,446	1,141,757	42,005,773	565,916	2.6	96.1	1.3				
CHILLICOTHE.....		1914	21	18	7	1,557	90	1,315	152	5.7	84.5	9.8	4,083,486	409,470	3,399,200	274,816	10.0	83.2	6.7				
CINCINNATI.....		1914	935	786	414	59,861	6,902	45,679	7,280	11.5	76.3	12.2	210,800,386	20									

Table 21—Continued.		Cen- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—		AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
					Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
						Indi- vidu- als.	Cor- pora- tions.	All oth- ers.	Indi- vidu- als.	Cor- pora- tions.	All oth- ers.		Indi- vidu- als.	Corpora- tions.	All others.	Indi- vidu- als.	Cor- pora- tions.	All oth- ers.				
IRONTON.....	1914	14	31	14	1,420	94	1,143	183	6.6	80.5	12.9	\$4,666,185	\$143,954	\$4,307,442	\$214,789	3.1	92.3	4.6				
LAKEWOOD.....	1914	14	7	1	1,774	1,434	1,340	.....	24.5	75.5	.....	3,606,498	1,594,784	3,011,714	.....	116.5	83.5	.....				
LANCASTER.....	1914	23	19	11	1,583	87	1,436	60	5.5	90.7	3.8	4,602,615	251,656	3,894,283	456,676	5.5	84.6	9.9				
LIMA.....	1914	41	42	14	4,876	120	4,619	137	2.5	94.7	2.8	11,598,580	506,718	10,826,368	265,494	4.4	93.3	2.3				
LORAIN.....	1914	28	32	6	6,436	40	6,336	60	0.6	98.4	0.9	29,110,037	144,226	28,905,193	60,618	0.5	99.3	0.2				
MANSFIELD.....	1914	46	37	20	3,398	208	2,862	328	6.1	84.2	9.7	10,281,968	455,534	8,857,109	969,325	4.4	86.1	9.4				
MARIETTA.....	1914	24	33	14	1,401	90	1,153	158	6.4	82.3	11.3	4,128,618	204,425	3,645,653	278,540	5.0	88.3	6.7				
MARION.....	1914	27	27	12	2,577	74	2,479	24	2.9	96.2	0.9	6,384,864	212,432	6,082,327	90,105	3.3	95.3	1.4				
MASSILLON.....	1914	37	30	3	1,768	177	1,580	11	10.0	89.4	0.6	5,293,124	374,673	4,882,357	36,094	7.1	92.2	0.7				
MIDDLETOWN.....	1914	24	29	10	4,003	87	3,883	33	2.2	97.0	0.8	21,787,151	213,240	21,497,753	76,158	1.0	98.7	0.3				
MOUNT VERNON.....	1914	14	9	4	772	50	709	13	6.5	91.8	1.7	2,302,669	93,895	2,073,283	135,491	4.1	90.0	5.9				
NEWARK.....	1914	34	25	20	4,583	220	3,858	505	4.8	84.2	11.0	9,276,762	465,729	7,857,081	953,952	5.0	84.7	10.3				
NORWOOD.....	1914	23	30	5	5,808	75	5,691	42	1.3	98.0	0.7	16,724,360	180,651	16,456,088	87,621	1.1	98.4	0.5				
Piqua.....	1914	34	30	14	2,777	122	2,444	111	4.4	91.6	4.0	7,988,279	501,810	7,229,095	257,374	6.3	90.5	3.2				
PORTSMOUTH.....	1914	31	33	12	3,597	77	3,468	52	2.1	96.4	1.4	7,682,145	411,158	7,119,608	151,379	5.4	92.7	2.0				
SANDUSKY.....	1914	41	53	13	2,727	157	2,415	155	5.8	88.6	5.7	8,284,865	504,681	7,273,361	506,823	6.1	87.8	6.1				
SPRINGFIELD.....	1914	111	91	51	7,868	439	7,003	426	5.6	89.0	5.4	27,721,789	1,399,218	24,688,487	1,634,084	5.0	89.1	5.9				
STEUBENVILLE.....	1914	23	22	15	4,506	78	4,375	53	1.7	97.1	1.2	16,958,987	220,660	16,510,323	228,004	1.3	97.4	1.3				
TIFFIN.....	1914	33	22	21	2,177	317	1,757	103	14.6	80.7	4.7	4,995,880	932,100	3,821,406	242,374	18.7	76.5	4.8				
TOLEDO.....	1914	290	303	120	27,076	1,041	24,632	1,403	3.8	91.0	5.2	115,049,426	3,246,273	107,234,068	4,569,085	2.8	93.2	4.0				
WARREN.....	1914	33	39	10	2,862	86	2,697	79	3.0	94.2	2.8	10,399,737	208,895	9,964,379	226,463	2.0	95.8	2.2				
YOUNGSTOWN.....	1914	86	82	33	15,861	278	15,439	144	1.8	97.3	0.9	92,111,272	771,844	90,776,424	563,004	0.8	98.6	0.6				
ZANESVILLE.....	1914	44	40	13	3,035	558	1,639	838	18.4	54.0	27.6	8,300,231	875,880	4,205,511	3,218,940	10.6	50.7	38.8				

<sup>1</sup> Includes the group "all others."

For all industries combined, there was a considerable increase during the decade in number of establishments under corporate ownership. Although corporations show a smaller proportion of the establishments than the other two classes combined, in value of products and average number of wage earners they largely predominate. In 1914, with 36.9 per cent of the total number of establishments in the state, they reported 89.8 per cent of the total value of products and 88 per cent of the total average number of wage earners. In 1909 and 1904 the corresponding proportions were somewhat less. In 1914 there was only one industry among those mentioned in the table—bread and other bakery products—where the establishments under other forms of ownership exceeded

the corporations in value of products and average number of wage earners. In the cities, taken as a group, 41.8 per cent of the number of establishments were reported as under corporate ownership, while 88.5 per cent of the total number of wage earners and 90.7 per cent of the total value of products were reported from this class of establishments. Among the individual cities, the greatest proportion of value of products reported by establishments under corporate ownership, 99.3 per cent, is shown for Lorain, while the smallest proportion, 50.7 per cent, appears for Zanesville.

Size of establishments.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is indicated by the statistics given in Table 22.

Table 22	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	VALUE OF PRODUCT.											
	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904
All classes.....	15,658	15,138	13,785	510,435	446,934	364,298	\$1,782,808,279	\$1,437,935,817	\$960,311,857	\$762,026,264	\$613,733,870	\$433,175,272
Less than \$5,000.....	5,105	5,095	4,857	6,151	7,021	7,831	12,447,953	12,198,229	11,894,202	7,755,381	7,811,667	7,737,680
\$5,000 to \$20,000.....	4,614	4,474	4,147	20,996	23,571	24,003	47,800,940	46,028,999	42,532,030	27,043,887	26,309,694	24,242,565
\$20,000 to \$100,000.....	3,464	3,405	3,083	61,756	64,853	66,880	159,828,466	156,080,099	139,906,296	79,804,044	76,806,053	71,518,400
\$100,000 to \$1,000,000.....	2,175	1,919	1,562	229,226	208,656	181,411	655,779,382	557,384,719	434,781,943	308,732,635	258,737,951	202,893,808
\$1,000,000 and over.....	300	245	136	192,305	142,833	84,173	900,945,038	666,243,771	331,726,477	338,689,717	244,088,505	126,782,819
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	32.6	33.7	35.2	1.2	1.6	2.1	0.7	0.8	1.2	1.0	1.3	1.8
\$5,000 to \$20,000.....	29.5	29.6	30.1	4.1	5.3	6.6	2.7	3.2	4.4	3.5	4.3	5.6
\$20,000 to \$100,000.....	22.1	22.5	22.4	12.1	14.5	18.4	9.0	10.9	14.6	10.5	12.5	16.5
\$100,000 to \$1,000,000.....	13.9	12.7	11.3	44.9	46.6	49.8	36.8	38.8	45.3	40.5	42.2	46.8
\$1,000,000 and over.....	1.9	1.6	1.0	37.7	32.0	23.1	50.9	46.3	34.5	44.4	39.8	29.3

## MANUFACTURES—OHIO.

For 1914, 300 establishments, or 1.9 per cent of the total number in the state, each reported products exceeding \$1,000,000 in value, as compared with 245, or 1.6 per cent, in 1909, and 136, or 1 per cent, in 1904. For 1914 these establishments reported an average of 192,306 wage earners, or 37.7 per cent of the total for the state, 50.9 per cent of the total value of products, and 44.4 per cent of the total value added by manufacture. In the same year the small establishments—those having products valued at less than \$5,000 in value—represented 32.6 per cent of the total number of establishments, but reported only 1.2 per

cent of the total average number of wage earners, seven-tenths of 1 per cent of the total value of products, and 1 per cent of the total value added by manufacture. For the establishments having products valued at \$100,000 and over, the proportion of the total shows an increase at each successive census—79.8 per cent in 1904 to 85.1 per cent in 1909 and 87.7 per cent in 1914.

Table 23 gives, for 1914 and 1909, for 20 of the more important industries, a classification of establishments, wage earners, value of products, and value added by manufacture, similar to that presented in Table 22.

INDUSTRY AND VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.				AVERAGE NUMBER OF WAGE EARNERS.				VALUE OF PRODUCTS.				VALUE ADDED BY MANUFACTURE.			
	1914		1909		1914		1909		1914		1909		1914		1909	
AGRICULTURAL IMPLEMENTS.....																
	59	55	100.0	100.0	5,464	5,997	100.0	100.0	\$17,484,615	\$14,440,461	100.0	100.0	\$9,674,830	\$8,121,942	100.0	100.0
Less than \$5,000.....	10	8	16.9	14.5	8	12	0.1	0.2	17,421	19,452	0.1	0.1	11,353	12,550	0.1	0.2
\$5,000 to \$20,000.....	15	10	25.4	18.2	75	50	1.4	0.8	129,534	117,250	0.7	0.8	76,840	69,183	0.8	0.8
\$20,000 to \$100,000.....	11	12	18.6	21.8	287	291	5.3	4.9	638,360	652,373	3.7	4.5	344,419	391,332	3.6	4.8
\$100,000 to \$1,000,000.....	19	22	32.2	40.0	3,024	3,340	55.3	55.7	9,171,804	8,389,730	52.5	58.1	4,723,398	4,606,335	48.8	57.8
\$1,000,000 and over.....	4	3	6.8	5.5	2,070	2,304	37.9	38.4	7,527,496	5,261,656	43.1	36.4	4,518,820	2,952,542	46.7	36.4
AUTOMOBILES, INCLUDING BODIES AND PARTS.....																
	102	75	100.0	100.0	18,752	12,130	100.0	100.0	85,710,585	38,838,754	100.0	100.0	30,380,088	20,316,756	100.0	100.0
Less than \$5,000.....	9	7	8.8	9.3	13	8	0.1	0.1	31,469	20,426	(1)	0.1	23,279	13,391	0.1	0.1
\$5,000 to \$20,000.....	22	12	21.6	16.0	123	73	0.7	0.6	228,633	148,768	0.3	0.4	139,500	93,543	0.5	0.5
\$20,000 to \$100,000.....	25	21	24.5	28.0	408	549	2.2	4.5	1,251,485	941,263	1.5	2.4	602,442	555,539	2.0	2.7
\$100,000 to \$1,000,000.....	31	22	30.4	29.3	2,803	2,714	14.9	22.4	10,946,115	7,244,613	12.8	18.7	4,260,205	3,586,193	14.1	17.6
\$1,000,000 and over.....	15	13	14.7	17.3	15,405	8,786	82.2	72.4	73,252,883	30,483,684	85.5	78.5	26,345,653	16,088,090	83.4	79.1
BOOTS AND SHOES, INCLUDING CUT STOCK AND FINDINGS.....																
	73	72	100.0	100.0	14,674	16,026	100.0	100.0	33,641,705	31,550,957	100.0	100.0	13,758,680	12,678,950	100.0	100.0
Less than \$5,000.....	5	4	6.8	5.6	5	17	(1)	0.1	14,062	9,827	(1)	(1)	7,920	5,272	0.1	(1)
\$5,000 to \$20,000.....	4	9	5.5	12.5	50	75	0.3	0.5	32,406	94,097	0.1	0.3	22,932	54,113	0.2	0.4
\$20,000 to \$100,000.....	17	9	23.3	12.5	407	334	2.8	2.1	663,486	404,621	2.0	1.3	321,430	199,611	2.3	1.6
\$100,000 to \$1,000,000.....	37	40	50.7	55.6	6,516	7,368	44.4	46.0	14,994,171	14,136,417	44.6	44.8	6,412,068	5,555,195	46.6	43.8
\$1,000,000 and over.....	10	10	13.7	13.9	7,696	8,232	52.4	51.4	17,936,980	16,905,995	53.3	53.6	6,994,330	6,864,750	50.8	54.2
BREAD AND OTHER BAKERY PRODUCTS.....																
	1,634	1,467	100.0	100.0	7,665	5,972	100.0	100.0	30,560,881	23,007,131	100.0	100.0	13,265,708	9,340,898	100.0	100.0
Less than \$5,000.....	608	557	37.2	38.0	444	397	5.8	6.6	1,800,731	1,618,993	5.9	7.0	813,222	715,540	6.1	7.7
\$5,000 to \$20,000.....	781	726	47.8	49.5	1,933	1,854	25.2	31.0	7,499,783	6,687,277	24.5	29.1	3,357,491	2,756,564	25.3	29.5
\$20,000 to \$100,000.....	192	151	11.8	10.3	1,806	1,458	23.6	24.4	6,997,065	5,521,220	22.9	24.0	2,777,910	2,058,702	20.9	22.0
\$100,000 to \$1,000,000.....	53	33	3.2	2.2	3,482	2,263	45.4	37.9	14,263,302	9,179,641	46.7	39.9	6,817,085	3,810,032	47.6	40.8
BRICK, TILE, POTTERY, AND OTHER CLAY PRODUCTS.....																
	549	703	100.0	100.0	27,334	23,985	100.0	100.0	38,667,374	30,531,002	100.0	100.0	26,491,419	21,865,179	100.0	100.0
Less than \$5,000.....	157	261	28.6	37.1	363	677	1.3	2.8	423,500	706,168	1.1	2.3	319,637	559,824	1.2	2.6
\$5,000 to \$20,000.....	134	182	24.4	25.9	1,207	1,709	4.4	7.1	1,434,741	1,922,171	3.7	6.3	1,112,396	1,481,566	4.2	6.8
\$20,000 to \$100,000.....	141	177	25.7	25.2	5,874	7,426	21.5	31.0	7,490,793	8,981,173	19.4	29.4	5,203,049	6,632,734	19.6	30.3
\$100,000 to \$1,000,000.....	117	83	21.3	11.8	19,890	14,173	72.8	59.1	29,318,340	18,921,490	75.8	62.0	19,856,337	13,191,025	75.0	60.3
BUTTER, CHEESE, AND CONDENSED MILK.....																
	286	325	100.0	100.0	1,480	1,067	100.0	100.0	19,325,977	9,689,670	100.0	100.0	3,357,766	2,004,234	100.0	100.0
Less than \$5,000.....	78	123	27.3	37.8	32	54	2.2	5.1	224,993	333,861	1.2	3.4	38,586	71,210	1.1	3.6
\$5,000 to \$20,000.....	78	104	27.3	32.0	85	112	5.7	10.5	876,869	1,059,718	4.5	10.9	153,231	195,725	4.6	9.8
\$20,000 to \$100,000.....	89	77	31.1	23.7	301	282	20.3	26.4	3,970,052	2,890,024	20.5	29.8	579,270	512,951	17.3	25.6
\$100,000 and over.....	41	21	14.3	6.5	1,062	619	71.8	58.0	14,254,063	5,406,067	73.8	55.8	2,586,679	1,224,348	77.0	61.1
CARRIAGES AND WAGONS AND MATERIALS.....																
	341	407	100.0	100.0	5,997	8,815	100.0	100.0	16,192,449	21,949,459	100.0	100.0	7,631,487	10,535,458	100.0	100.0
Less than \$5,000.....	80	84	23.5	20.6	129	155	2.2	1.8	220,067	227,147	1.4	1.0	149,703	154,619	2.0	1.5
\$5,000 to \$20,000.....	137	172	40.2	42.3	751	1,073	12.5	12.2	1,459,998	1,788,714	9.0	8.1	949,809	1,118,304	12.4	10.6
\$20,000 to \$100,000.....	80	89	23.5	21.9	1,591	1,968	26.5	22.3	3,698,094	4,250,008	22.8	19.4	1,877,851	2,062,500	24.6	19.9
\$100,000 to \$1,000,000.....	44	62	12.9	15.2	3,526	5,619	58.8	63.7	10,814,290	15,683,590	66.8	71.5	4,654,124	7,170,026	61.0	68.1
CLOTHING, MEN'S, INCLUDING SHIRTS.....																
	257	342	100.0	100.0	10,758	9,950	100.0	100.0	27,621,829	24,869,437	100.0	100.0	13,865,495	11,940,357	100.0	100.0
Less than \$5,000.....	75	119	29.2	34.8	372	549	3.5	5.5	177,731	296,605	0.6	1.2	159,608	284,219	1.2	2.4
\$5,000 to \$20,000.....	63	116	24.5	33.9	999	1,784	9.3	17.9	625,132	1,084,827	2.3	4.4	512,154	945,399	3.7	7.9
\$20,000 to \$100,000.....	61	53	23.7	15.5	1,880	1,537	17.5	15.4	3,121,828	2,701,557	11.3	10.9	1,661,958	1,302,380	12.0	10.9
\$100,000 and over.....	58	54	22.6	15.8	7,507	6,080	69.8	61.1	23,697,138	20,789,948	85.8	83.6	11,531,775	9,417,359	83.2	78.8
CLOTHING, WOMEN'S.....																
	170	153	100.0	100.0	9,775	8,843	100.0	100.0	22,881,753	19,493,060	100.0	100.0	10,791,914	9,202,477	100.0	100.0
Less than \$5,000.....	38	42	22.4	27.4	121	154	1.2	1.7	87,497	103,484	0.4	0.5	78,978	88,862	0.7	1.0
\$5,000 to \$20,000.....	29	27	17.1	17.6	211	316	2.2	3.6	810,333	286,802	1.4	1.5	193,533	209,521	1.8	2.3
\$20,000 to \$100,000.....	56	42	32.9	27.4	1,413	1,234	14.5	14.0	3,063,293	2,162,544	13.4	11.1	1,412,576	969,594	13.1	10.5
\$100,000 to \$1,000,000.....	43	39	25.3	25.5	5,658	5,095	57.9	57.6	11,997,974	11,562,057	52.4	59.3	5,528,331	5,277,791	51.2	57.3
\$1,000,000 and over.....	4	3	2.4	2.0	2,372	2,044	24.3	23.1	7,422,656	5,378,173	32.4	27.6	3,580,496	2,656,709	33.2	28.9

<sup>1</sup> Less than one-tenth of 1 per cent.

<sup>2</sup> Includes the group "\$1,000,000 and over."

Table 23—Continued.	NUMBER OF ESTABLISHMENTS.				AVERAGE NUMBER OF WAGE EARNERS.				VALUE OF PRODUCTS.				VALUE ADDED BY MANUFACTURE.			
			Per cent distribution.				Per cent distribution.				Per cent distribution.				Per cent distribution.	
	1914	1909	1914	1909	1914	1909	1914	1909	1914	1909	1914	1909	1914	1909	1914	1909
COFFEE AND SPICE, ROASTING AND GRINDING.....	35	39	100.0	100.0	822	762	100.0	100.0	\$13,312,493	\$11,224,437	100.0	100.0	\$3,128,109	\$2,947,098	100.0	100.0
Less than \$5,000.....	3	3	7.7	7.7	2	2	0.3	0.3	9,465	9,465	0.1	0.1	3,845	3,845	0.1	0.1
\$5,000 to \$20,000.....	17	4	20.0	10.3	14	10	1.7	1.3	58,351	45,975	0.4	0.4	18,735	11,485	0.6	0.4
\$20,000 to \$100,000.....	10	10	28.6	25.6	52	45	6.3	5.9	559,877	446,753	4.2	4.0	162,226	113,144	5.2	3.8
\$100,000 to \$1,000,000.....	14	18	40.0	46.2	431	407	52.4	53.4	5,195,542	4,819,723	39.0	42.9	1,096,610	1,354,060	35.1	45.9
\$1,000,000 and over.....	4	4	11.4	10.3	325	298	39.5	39.1	7,498,723	5,902,521	56.3	52.6	1,850,538	1,404,564	59.2	49.7
CONFECTIONERY.....	132	114	100.0	100.0	3,149	2,493	100.0	100.0	10,133,602	7,306,574	100.0	100.0	4,053,093	3,217,656	100.0	100.0
Less than \$5,000.....	26	27	19.7	23.7	40	31	1.3	1.2	69,168	60,400	0.7	0.8	39,650	29,231	1.0	0.9
\$5,000 to \$20,000.....	40	36	30.3	31.6	158	178	5.0	7.1	404,356	378,643	4.0	5.2	197,877	181,430	4.9	5.6
\$20,000 to \$100,000.....	40	32	30.3	28.1	715	540	22.7	21.7	1,920,905	1,568,573	19.0	21.5	773,817	671,091	19.1	20.9
\$100,000 and over.....	26	19	19.7	16.7	2,236	1,744	71.0	70.0	7,739,173	5,298,958	76.4	72.5	3,041,749	2,335,904	75.0	72.6
ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES.....	119	115	100.0	100.0	12,695	8,073	100.0	100.0	36,120,978	18,776,769	100.0	100.0	18,638,730	11,550,891	100.0	100.0
Less than \$5,000.....	22	19	18.5	16.5	35	32	0.3	0.4	60,755	57,374	0.2	0.3	29,286	35,838	0.2	0.3
\$5,000 to \$20,000.....	22	26	18.5	22.6	101	138	0.8	1.7	231,162	259,524	0.6	1.4	139,649	155,021	0.7	1.3
\$20,000 to \$100,000.....	32	33	26.9	28.7	572	695	4.5	8.6	1,604,111	1,592,979	4.4	8.5	865,200	925,848	4.6	8.0
\$100,000 to \$1,000,000.....	33	37	27.7	32.2	3,995	7,208	31.5	89.3	9,693,597	16,866,892	26.8	89.8	5,578,597	10,434,184	29.9	90.3
\$1,000,000 and over.....	10	10	8.4	8.4	7,992	7,992	63.0	63.0	24,531,350	24,531,350	67.9	67.9	12,025,998	12,025,998	64.5	64.5
FLOUR-MILL AND GRISTMILL PRODUCTS.....	649	673	100.0	100.0	2,363	2,585	100.0	100.0	45,171,200	48,093,353	100.0	100.0	6,213,814	6,740,746	100.0	100.0
Less than \$5,000.....	61	41	9.4	6.1	32	33	1.4	1.3	178,668	125,064	0.4	0.3	39,578	30,114	0.6	0.4
\$5,000 to \$20,000.....	239	191	36.8	28.4	290	207	12.3	8.0	2,920,130	2,308,342	6.5	4.8	532,354	460,476	8.6	6.8
\$20,000 to \$100,000.....	279	368	43.0	54.7	870	1,051	36.8	40.7	12,458,066	15,827,039	27.6	32.9	2,125,091	2,719,774	34.2	40.4
\$100,000 to \$1,000,000.....	61	64	9.4	9.5	659	750	27.9	29.0	14,522,437	16,641,167	32.1	34.6	1,900,130	1,954,400	30.6	29.0
\$1,000,000 and over.....	9	9	1.4	1.3	512	544	21.7	21.0	15,091,899	13,191,741	33.4	27.4	1,616,661	1,576,982	26.0	23.4
FOUNDRY AND MACHINE-SHOP PRODUCTS.....	1,379	1,218	100.0	100.0	73,103	64,817	100.0	100.0	178,855,069	145,836,648	100.0	100.0	101,352,054	81,276,753	100.0	100.0
Less than \$5,000.....	261	198	18.9	16.3	333	280	0.5	0.4	604,663	481,119	0.4	0.3	458,262	317,218	0.5	0.4
\$5,000 to \$20,000.....	337	303	24.4	24.9	1,716	1,830	2.3	2.8	3,712,809	3,847,103	2.1	2.3	2,443,032	2,172,448	2.4	2.7
\$20,000 to \$100,000.....	402	401	29.2	32.9	8,956	9,752	12.3	15.0	19,493,556	19,627,491	10.9	13.5	11,375,581	11,223,823	11.2	13.8
\$100,000 to \$1,000,000.....	355	293	25.7	24.1	45,375	38,563	62.1	59.5	109,442,022	86,934,104	61.2	59.6	60,651,839	47,427,402	59.8	58.3
\$1,000,000 and over.....	24	23	1.7	1.9	16,723	14,392	22.9	22.2	45,541,419	35,446,831	25.5	24.3	26,423,340	20,135,862	26.1	24.8
FURNITURE AND REFRIGERATORS.....	213	228	100.0	100.0	7,831	8,232	100.0	100.0	16,687,466	16,258,757	100.0	100.0	9,258,295	9,016,312	100.0	100.0
Less than \$5,000.....	37	35	17.4	15.4	39	43	0.5	0.5	87,011	91,623	0.5	0.6	59,142	62,003	0.6	0.7
\$5,000 to \$20,000.....	52	54	24.4	23.7	316	357	4.0	4.3	573,661	599,079	3.4	3.7	343,900	369,452	3.7	4.1
\$20,000 to \$100,000.....	79	101	37.1	44.3	2,017	3,086	25.8	37.5	3,850,281	5,341,908	23.1	32.9	2,106,602	2,851,220	22.8	31.6
\$100,000 and over.....	45	38	21.1	16.7	5,459	4,746	69.7	57.7	12,176,513	10,226,247	73.0	62.9	6,748,651	5,733,637	72.9	63.6
LIQUORS, MALT.....	101	105	100.0	100.0	5,340	4,356	100.0	100.0	31,990,274	25,332,059	100.0	100.0	22,799,792	18,768,959	100.0	100.0
Less than \$5,000.....	3	4	3.0	3.8	2	5	(*)	0.1	5,047	8,855	(*)	(*)	3,299	5,915	(*)	(*)
\$5,000 to \$20,000.....	4	7	4.0	6.7	17	30	0.3	0.7	49,665	75,779	0.2	0.3	35,023	46,192	0.1	0.2
\$20,000 to \$100,000.....	26	36	25.7	34.3	344	467	6.4	10.7	1,390,076	2,126,651	4.3	8.4	895,955	1,485,898	3.9	7.9
\$100,000 to \$1,000,000.....	61	52	60.4	49.5	3,132	2,370	58.7	54.4	18,316,357	13,794,286	57.3	54.5	13,189,816	10,318,489	57.9	55.0
\$1,000,000 and over.....	7	6	6.9	5.7	1,845	1,484	34.6	34.1	12,228,129	9,326,488	38.2	36.8	8,675,699	6,912,465	38.1	36.8
LUMBER AND TIMBER PRODUCTS.....	1,188	1,390	100.0	100.0	11,921	13,456	100.0	100.0	31,852,694	34,597,069	100.0	100.0	13,835,983	14,624,706	100.0	100.0
Less than \$5,000.....	475	574	40.0	41.3	767	1,121	6.4	8.3	1,085,251	1,370,723	3.4	4.0	648,812	868,599	4.7	5.9
\$5,000 to \$20,000.....	388	453	32.6	32.6	2,009	2,561	16.9	19.0	3,875,768	4,565,738	12.2	13.2	2,115,537	2,504,581	15.3	17.1
\$20,000 to \$100,000.....	240	284	20.2	20.4	3,930	4,901	33.0	36.4	10,563,342	12,920,125	33.2	37.3	4,677,314	5,425,620	33.8	37.1
\$100,000 to \$1,000,000.....	85	79	7.2	5.7	5,215	4,873	43.7	36.2	16,328,333	15,740,483	51.3	45.5	6,384,320	5,825,906	46.2	39.8
PRINTING AND PUBLISHING.....	1,783	1,655	100.0	100.0	18,070	15,756	100.0	100.0	55,608,924	41,657,306	100.0	100.0	38,538,944	29,752,852	100.0	100.0
Less than \$5,000.....	832	795	46.7	48.0	1,021	1,095	5.7	6.9	2,103,822	1,939,089	3.8	4.7	1,647,070	1,496,403	4.3	5.0
\$5,000 to \$20,000.....	539	524	30.2	31.7	2,524	2,823	14.0	17.9	5,257,186	5,208,241	9.5	12.5	4,021,980	4,044,786	10.4	13.6
\$20,000 to \$100,000.....	319	260	17.9	15.7	5,159	4,713	28.6	29.9	13,369,214	10,754,812	24.0	25.8	9,581,787	7,765,373	24.9	26.1
\$100,000 to \$1,000,000.....	85	72	4.8	4.4	6,882	5,624	38.1	35.7	22,557,184	18,731,793	40.6	45.0	15,169,785	13,187,171	39.4	44.3
\$1,000,000 and over.....	8	4	0.4	0.2	2,484	1,501	13.7	9.5	12,321,518	5,023,371	22.2	12.1	8,118,322	3,259,219	21.1	11.0
SLAUGHTERING AND MEAT PACKING.....	169	158	100.0	100.0	3,619	3,086	100.0	100.0	66,674,379	50,804,100	100.0	100.0	6,993,279	6,456,938	100.0	100.0
Less than \$5,000.....	6	7	3.6	4.4	1	11	(*)	0.4	15,467	26,156	(*)	0.1	3,931	13,002	0.1	0.2
\$5,000 to \$20,000.....	24	18	14.2	11.4	25	19	0.7	0.6	298,200	196,283	0.4	0.4	53,483	35,274	0.8	0.5
\$20,000 to \$100,000.....	59	60	34.9	38.0	1,079	224	4.9	7.3	2,904,473	3,277,587	4.4	6.5	442,781	568,803	6.3	8.8
\$100,000 to \$1,000,000.....	62	61	36.7	38.6	1,017	1,088	28.1	35.3	20,771,362	20,274,934	31.2	39.9	2,523,648	2,487,572	36.1	38.5
\$1,000,000 and over.....	18	12	10.7	7.6	2,397	1,744	66.2	56.5	42,684,877	27,029,140	64.0	53.2	3,969,436	3,352,287	56.8	51.9
TOBACCO MANUFACTURES.....	961	1,146	100.0	100.0	13,282	12,631	100.0	100.0	28,467,079	28,907,269	100.0	100.0	16,550,307	16,832,446	100.0	100.0
Less than \$5,000.....	679	860	70.7	75.0	579	808	4.4	6.4	1,320,523	1,658,381	4.6	5.7	843,777	1,104,749	5.1	6.6
\$5,000 to \$20,000.....	175	184	18.2	16.1	1,087	1,263	8.2	10.0	1,559,838	1,702,071	5.5	5.9	1,129,261	1,291,261	6.1	6.7
\$20,000 to \$100,000.....	61	64	6.3	5.6	1,990	2,218	15.0	17.6	2,840,661	2,900,171	10.0	10.0	1,759,398	1,840,402	10.6	10.9
\$100,000 to \$1,000,000.....	42	34	4.4	3.0	7,060	6,010	53.2	47.6	10,030,186	8,617,942	35.2	29.8	5,645,644	4,926,900	34.1	29.3
\$1,000,000 and over.....	4	4	0.4	0.3	2,566	2,332	19.3	18.5	12,715,871	14,028,704	44.7	48.5	7,291,336	7,831,134	44.1	46.5

\* Includes the group "less than \$5,000."

\* Includes the group "\$1,000,000 and over."

\* Less than one-tenth of 1 per cent.

In 1914 and in 1909, as in the totals for all industries combined, this table shows that for each of the 20 industries the great bulk of the manufacturing was done in establishments having products valued at \$100,000 and over. Among the 20 industries presented in this table for 1914, as compared with 1909, 15 show increases in the number of establishments having products valued at \$100,000 and over and 5 show decreases. All but 5 industries in this group show increases in value of products and number of wage earners, while 16 show increases in value added by manufacture.

In the automobile, boot and shoe, electrical machinery, and slaughtering and meat-packing industries the establishments reporting products to the value of

\$1,000,000 and over in 1914 reported a much larger proportion of the total average number of wage earners and total value of products than all other establishments combined. For automobiles, including bodies and parts, such establishments reported more than four-fifths of the total average number of wage earners and total value of products, while for both electrical machinery, apparatus, and supplies, and slaughtering and meat packing, about two-thirds of the wage earners and value of products were reported by such establishments.

Table 24 presents, for 1914, for all industries combined in each of the 43 cities having more than 10,000 inhabitants, statistics similar to those given in Table 22 for the state as a whole.

Table 24															
CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
		Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.			Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
AKRON.....	305	24,680	100.0	\$122,291,600	100.0	\$56,229,208	100.0	COLUMBUS.....	643	17,236	100.0	\$57,608,084	100.0	\$26,971,586	100.0
Less than \$5,000.....	86	84	0.3	217,777	0.2	137,200	0.2	Less than \$5,000.....	193	193	1.1	501,149	0.9	325,075	1.2
\$5,000 to \$20,000.....	92	318	1.3	881,108	0.7	507,874	0.9	\$5,000 to \$20,000.....	186	805	4.7	1,972,642	3.4	1,184,976	4.4
\$20,000 to \$100,000.....	69	1,304	5.3	3,090,328	2.5	1,723,991	3.1	\$20,000 to \$100,000.....	164	3,070	17.8	7,824,665	13.6	4,357,325	16.2
\$100,000 to \$1,000,000.....	49	4,592	18.6	13,940,024	11.4	7,289,910	13.0	\$100,000 to \$1,000,000.....	91	7,798	45.2	25,838,753	44.9	12,626,113	46.8
\$1,000,000 and over.....	9	18,382	74.5	104,162,363	85.2	46,570,233	82.8	\$1,000,000 and over.....	9	5,370	31.2	21,470,875	37.3	8,478,097	31.4
ALLIANCE.....	52	2,333	100.0	7,174,766	100.0	3,518,380	100.0	COSHOCTON.....	47	1,614	100.0	3,476,686	100.0	1,663,032	100.0
Less than \$5,000.....	14	11	0.5	35,346	0.5	19,728	0.6	Less than \$5,000.....	12	10	0.6	28,131	0.8	15,350	0.9
\$5,000 to \$20,000.....	17	82	3.5	164,015	2.3	100,683	2.9	\$5,000 to \$20,000.....	15	84	5.2	176,609	5.1	103,970	6.3
\$20,000 to \$100,000.....	14	263	11.3	701,653	9.8	350,015	9.9	\$20,000 to \$100,000.....	13	266	16.5	662,303	19.0	285,748	17.2
\$100,000 to \$1,000,000.....	4	587	25.2	1,684,379	23.5	634,463	18.0	\$100,000 to \$1,000,000.....	7	1,254	77.7	2,600,643	75.1	1,257,964	75.6
\$1,000,000 and over.....	3	1,390	59.6	4,589,373	64.0	2,413,491	68.6	DATTON.....	523	24,061	100.0	71,071,374	100.0	38,117,653	100.0
ASHTABULA.....	57	1,868	100.0	5,020,991	100.0	2,195,930	100.0	Less than \$5,000.....	146	164	0.7	366,085	0.5	230,094	0.6
Less than \$5,000.....	15	28	1.5	35,886	0.7	19,124	0.9	\$5,000 to \$20,000.....	143	679	2.8	1,525,601	2.1	927,119	2.4
\$5,000 to \$20,000.....	22	97	5.2	195,514	3.9	99,992	4.6	\$20,000 to \$100,000.....	129	2,015	8.4	5,724,705	8.1	2,835,087	7.4
\$20,000 to \$100,000.....	11	250	13.4	599,420	11.9	237,569	10.8	\$100,000 to \$1,000,000.....	93	9,710	40.4	24,148,937	34.0	12,448,359	32.7
\$100,000 to \$1,000,000.....	9	1,493	79.9	4,190,171	83.5	1,839,245	83.8	\$1,000,000 and over.....	12	11,493	47.8	39,306,046	55.3	21,670,994	56.9
BARBERTON.....	34	3,118	100.0	8,843,422	100.0	4,737,847	100.0	EAST LIVERPOOL.....	80	4,830	100.0	7,092,903	100.0	4,250,822	100.0
Less than \$5,000.....	8	9	0.3	18,445	0.2	12,297	0.3	Less than \$5,000.....	17	16	0.3	33,165	0.5	20,289	0.5
\$5,000 to \$20,000.....	14	47	1.5	155,354	1.8	81,993	1.7	\$5,000 to \$20,000.....	22	96	2.0	229,954	3.2	125,877	3.0
\$20,000 to \$100,000.....	4	21	0.7	207,076	2.3	47,526	1.0	\$20,000 to \$100,000.....	20	430	8.9	910,230	12.8	459,712	10.8
\$100,000 and over.....	8	3,041	97.5	8,462,547	95.7	4,596,031	97.0	\$100,000 to \$1,000,000.....	21	4,288	88.8	5,919,554	83.5	3,644,944	85.7
BELLAIRE.....	40	2,603	100.0	12,170,206	100.0	2,891,786	100.0	ELYRIA.....	63	2,735	100.0	8,791,734	100.0	3,775,398	100.0
Less than \$5,000.....	11	13	0.5	27,430	0.2	15,662	0.5	Less than \$5,000.....	17	19	0.7	47,555	0.5	30,292	0.8
\$5,000 to \$20,000.....	16	83	3.2	132,602	1.1	75,127	2.6	\$5,000 to \$20,000.....	17	82	3.0	191,874	2.2	123,374	3.3
\$20,000 to \$100,000.....	5	33	1.2	192,466	1.6	96,159	3.4	\$20,000 to \$100,000.....	14	257	9.4	594,107	6.8	308,087	8.2
\$100,000 and over.....	8	2,424	93.1	11,817,708	97.1	2,704,838	93.6	\$100,000 and over.....	15	2,377	86.9	7,958,198	90.5	3,313,645	87.8
CAMBRIDGE.....	39	1,455	100.0	3,923,786	100.0	1,583,832	100.0	FINDLAY.....	78	1,737	100.0	4,662,778	100.0	1,871,685	100.0
Less than \$5,000.....	10	10	0.7	26,156	0.7	13,796	0.9	Less than \$5,000.....	27	23	1.3	63,286	1.4	40,907	2.2
\$5,000 to \$20,000.....	14	66	4.5	144,346	3.7	76,074	4.8	\$5,000 to \$20,000.....	23	123	7.1	230,837	5.0	133,935	7.2
\$20,000 and over.....	15	1,379	94.8	3,753,284	95.7	1,493,962	94.3	\$20,000 to \$100,000.....	17	274	15.8	856,401	18.4	397,457	21.2
CANTON.....	276	12,255	100.0	43,713,446	100.0	21,905,360	100.0	\$100,000 to \$1,000,000.....	11	1,317	75.8	3,512,254	75.3	1,299,386	69.4
Less than \$5,000.....	69	99	0.8	188,780	0.4	130,420	0.6	FOSTORIA.....	47	1,252	100.0	6,124,679	100.0	1,755,714	100.0
\$5,000 to \$20,000.....	91	446	3.6	1,071,615	2.5	612,293	2.8	Less than \$5,000.....	15	10	0.8	31,325	0.5	18,783	1.1
\$20,000 to \$100,000.....	56	980	8.0	2,538,082	5.8	1,533,615	7.0	\$5,000 to \$20,000.....	9	35	2.8	89,971	1.5	46,461	2.6
\$100,000 to \$1,000,000.....	52	5,957	48.6	16,807,475	38.4	8,075,056	36.9	\$20,000 to \$100,000.....	14	268	21.4	597,603	9.8	317,362	18.1
\$1,000,000 and over.....	8	4,773	38.9	23,107,494	52.9	11,553,976	52.7	\$100,000 and over.....	9	939	75.0	5,405,780	88.3	1,373,108	78.2
CHILLICOTHE.....	46	1,557	100.0	4,083,486	100.0	1,512,485	100.0	FREMONT.....	65	2,063	100.0	4,779,982	100.0	2,483,486	100.0
Less than \$5,000.....	10	15	1.0	28,708	0.7	15,570	1.0	Less than \$5,000.....	14	17	0.8	35,005	0.7	22,942	0.9
\$5,000 to \$20,000.....	13	54	3.5	131,192	3.2	76,777	5.1	\$5,000 to \$20,000.....	24	136	6.6	270,568	5.7	153,967	6.2
\$20,000 to \$100,000.....	16	292	18.8	632,463	15.5	347,406	23.0	\$20,000 to \$100,000.....	17	208	10.1	727,062	15.2	379,020	15.3
\$100,000 and over.....	7	1,196	76.8	3,291,123	80.6	1,072,732	70.9	\$100,000 and over.....	10	1,702	82.5	3,747,347	78.4	1,927,557	77.6
CINCINNATI.....	2,135	59,861	100.0	210,860,386	100.0	96,753,752	100.0	HAMILTON.....	129	6,043	100.0	16,877,260	100.0	7,862,268	100.0
Less than \$5,000.....	569	674	1.1	1,350,685	0.6	932,906	1.0	Less than \$5,000.....	40	26	0.4	83,897	0.5	49,092	0.6
\$5,000 to \$20,000.....	585	3,211	5.4	6,143,833	2.9	4,014,876	4.1	\$5,000 to \$20,000.....	34	176	2.9	413,607	2.5	238,515	3.0
\$20,000 to \$100,000.....	551	10,506	17.6	26,294,083	12.5	13,949,700	14.4	\$20,000 to \$100,000.....	25	571	9.4	1,136,690	6.7	666,935	8.5
\$100,000 to \$1,000,000.....	400	35,500	59.3	115,882,154	55.0	54,286,470	56.1	\$100,000 to \$1,000,000.....	27	3,420	56.6	8,166,510	48.4	4,009,663	51.0
\$1,000,000 and over.....	30	9,970	16.7	61,189,631	29.0	23,569,800	24.4	\$1,000,000 and over.....	3	1,850	30.6	7,076,556	41.9	2,898,063	36.9
CLEVELAND.....	2,345	103,317	100.0	352,418,052	100.0	153,925,488	100.0	IRONTON.....	59	1,420	100.0	4,666,185	100.0	1,372,082	100.0
Less than \$5,000.....	634	673	0.7	1,558,724	0.4	1,045,282	0.7	Less than \$5,000.....	14	22	1.5	37,686	0.8	19,236	1.4
\$5,000 to \$20,000.....	661	3,022	2.9	6,998,818	2.0	4,346,301	2.8	\$5,000 to \$20,000.....	16	78	5.5	142,718	3.1	86,614	6.3
\$20,000 to \$100,000.....	563	9,523	9.2	27,593,346	7.8	14,623,653	9.5	\$20,000 to \$100,000.....	17	367	25.8	711,830	15.3	367,895	26.8
\$100,000 to \$1,000,000.....	410	43,475	42.1	129,166,024	36.7	62,694,444	40.7	\$100,000 to \$1,000,000.....	12	953	67.1	3,773,951	80.9	898,337	65.5
\$1,000,000 and over.....	77	46,624	45.1	187,101,140	53.1	71,215,808	46.3								



Table 24—Continued.

CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
		Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.			Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
LANCASTER.....	53	1,583	100.0	\$4,602,615	100.0	\$1,315,182	100.0	PIQUA.....	78	2,777	100.0	\$7,988,279	100.0	\$3,434,720	100.0
Less than \$5,000.....	16	24	1.5	39,093	0.8	22,608	1.7	Less than \$5,000.....	16	16	0.6	38,461	0.5	24,789	0.7
\$5,000 to \$20,000.....	16	66	4.2	158,809	3.5	103,382	7.9	\$5,000 to \$20,000.....	27	123	4.4	270,061	3.4	153,597	4.5
\$20,000 to \$100,000.....	12	185	11.7	513,874	11.2	235,030	17.9	\$20,000 to \$100,000.....	16	222	8.0	726,613	9.1	310,802	9.1
\$100,000 and over <sup>1</sup> .....	9	1,308	82.6	3,890,539	84.5	954,162	72.5	\$100,000 to \$1,000,000.....	19	2,416	87.0	6,953,144	87.0	2,945,532	85.8
LIMA.....	97	4,876	100.0	11,598,580	100.0	5,239,472	100.0	PORTSMOUTH.....	76	3,597	100.0	7,682,145	100.0	3,603,031	100.0
Less than \$5,000.....	28	28	0.6	58,538	0.5	30,220	0.6	Less than \$5,000.....	20	14	0.4	36,351	0.5	19,689	0.5
\$5,000 to \$20,000.....	24	91	1.9	250,056	2.2	159,304	3.0	\$5,000 to \$20,000.....	27	108	3.0	266,705	3.5	131,708	3.7
\$20,000 to \$100,000.....	30	586	12.0	1,393,157	12.0	759,380	14.5	\$20,000 to \$100,000.....	19	479	13.3	993,952	13.0	542,860	15.1
\$100,000 to \$1,000,000.....	12	1,033	21.2	2,977,661	25.7	1,123,135	21.5	\$100,000 to \$1,000,000.....	7	439	12.2	956,594	12.5	526,858	14.6
\$1,000,000 and over.....	3	3,138	64.4	6,919,168	59.7	3,158,433	60.4	\$1,000,000 and over.....	3	2,557	71.1	5,426,543	70.6	2,381,936	66.1
LORAIN.....	66	6,436	100.0	29,110,037	100.0	11,180,653	100.0	SANDUSKY.....	107	2,727	100.0	8,284,865	100.0	4,226,069	100.0
Less than \$5,000.....	26	21	0.3	50,949	0.2	28,581	0.3	Less than \$5,000.....	26	25	0.9	56,297	0.7	35,338	0.8
\$5,000 to \$20,000.....	17	48	0.7	176,571	0.6	79,523	0.7	\$5,000 to \$20,000.....	20	68	2.5	200,835	2.4	136,036	3.2
\$20,000 to \$100,000.....	16	245	3.8	586,829	2.0	305,794	2.7	\$20,000 to \$100,000.....	43	888	32.5	2,156,901	26.0	1,305,369	30.9
\$100,000 and over <sup>1</sup> .....	7	6,122	95.1	28,295,688	97.2	10,766,755	96.3	\$100,000 and over <sup>1</sup> .....	18	1,746	64.0	5,870,832	70.9	2,749,326	65.1
MANSFIELD.....	103	3,398	100.0	10,281,968	100.0	5,510,169	100.0	SPRINGFIELD.....	253	7,868	100.0	27,721,789	100.0	14,018,281	100.0
Less than \$5,000.....	28	42	1.2	70,103	0.7	40,524	0.7	Less than \$5,000.....	86	82	1.0	195,050	0.7	132,201	0.9
\$5,000 to \$20,000.....	30	117	3.4	279,890	2.7	168,148	3.1	\$5,000 to \$20,000.....	70	300	3.8	705,021	2.5	442,949	3.2
\$20,000 to \$100,000.....	21	288	8.5	1,079,998	10.5	431,773	7.8	\$20,000 to \$100,000.....	47	681	8.7	2,264,080	8.2	1,130,104	8.1
\$100,000 and over <sup>1</sup> .....	24	2,951	86.8	8,851,977	86.1	4,869,724	88.4	\$100,000 to \$1,000,000.....	44	3,842	48.8	11,537,667	41.6	5,942,102	42.4
MARIETTA.....	71	1,401	100.0	4,128,618	100.0	1,745,829	100.0	\$1,000,000 and over.....	6	2,963	37.7	13,019,971	47.0	6,370,925	45.4
Less than \$5,000.....	14	24	1.7	34,260	0.8	19,780	1.1	STEUBENVILLE.....	60	4,506	100.0	16,958,987	100.0	5,526,731	100.0
\$5,000 to \$20,000.....	29	153	10.9	318,887	7.6	165,399	9.5	Less than \$5,000.....	17	17	0.4	43,182	0.3	24,659	0.4
\$20,000 to \$100,000.....	19	410	29.7	878,216	21.3	463,365	26.5	\$5,000 to \$20,000.....	20	81	1.8	245,418	1.4	144,269	2.6
\$100,000 to \$1,000,000.....	9	808	57.7	2,902,255	70.3	1,097,285	62.9	\$20,000 to \$100,000.....	12	128	2.8	436,717	2.6	196,572	3.6
MARION.....	66	2,577	100.0	6,384,864	100.0	3,823,226	100.0	\$100,000 and over <sup>1</sup> .....	11	4,280	95.0	16,233,670	95.7	5,161,231	93.4
Less than \$5,000.....	28	26	1.0	74,924	1.2	46,808	1.2	TIFFIN.....	76	2,177	100.0	4,995,880	100.0	2,604,215	100.0
\$5,000 to \$20,000.....	13	48	1.9	124,505	1.7	66,212	1.7	Less than \$5,000.....	17	17	0.8	46,678	0.9	34,413	1.3
\$20,000 to \$100,000.....	18	279	10.8	912,774	14.3	480,114	12.5	\$5,000 to \$20,000.....	30	144	6.6	296,617	5.9	186,688	7.2
\$100,000 and over <sup>1</sup> .....	7	2,224	86.3	5,272,661	82.6	3,230,092	84.5	\$20,000 to \$100,000.....	17	343	15.8	799,972	16.0	460,155	17.7
MASSILLON.....	70	1,768	100.0	5,293,124	100.0	2,574,251	100.0	\$100,000 to \$1,000,000.....	12	1,673	76.8	3,852,613	77.1	1,922,959	73.8
Less than \$5,000.....	24	38	2.1	60,798	1.1	42,357	1.6	TOLEDO.....	713	27,076	100.0	115,049,426	100.0	44,555,157	100.0
\$5,000 to \$20,000.....	19	99	5.6	200,777	3.8	130,561	5.1	Less than \$5,000.....	209	196	0.7	513,970	0.4	338,770	0.8
\$20,000 to \$100,000.....	13	211	11.9	559,997	10.6	223,303	8.7	\$5,000 to \$20,000.....	206	816	3.0	2,189,052	1.9	1,364,189	3.1
\$100,000 and over <sup>1</sup> .....	14	1,420	80.3	4,471,552	84.5	2,178,000	84.6	\$20,000 to \$100,000.....	169	3,092	11.4	7,584,837	6.6	4,135,588	9.3
MIDDLETOWN.....	63	4,003	100.0	21,787,151	100.0	11,207,157	100.0	\$100,000 to \$1,000,000.....	108	10,555	39.0	32,206,532	28.1	15,278,704	34.2
Less than \$5,000.....	19	31	0.8	51,524	0.2	28,239	0.3	\$1,000,000 and over.....	21	12,417	45.9	72,464,985	63.0	28,437,906	52.6
\$5,000 to \$20,000.....	13	52	1.3	122,880	0.6	70,544	0.6	WARREN.....	82	2,862	100.0	10,399,737	100.0	4,045,232	100.0
\$20,000 to \$100,000.....	16	205	5.2	732,630	3.4	333,229	3.0	Less than \$5,000.....	23	36	1.3	64,677	0.6	35,014	0.9
\$100,000 to \$1,000,000.....	11	861	21.5	5,364,778	24.6	1,698,256	15.2	\$5,000 to \$20,000.....	24	74	2.6	231,081	2.2	121,928	3.0
\$1,000,000 and over.....	4	2,851	71.2	15,515,339	71.2	9,076,889	81.0	\$20,000 to \$100,000.....	20	251	8.8	760,115	7.3	348,610	8.6
MOUNT VERNON.....	27	772	100.0	2,302,669	100.0	826,581	100.0	\$100,000 and over <sup>1</sup> .....	15	2,501	87.4	9,343,864	89.8	3,539,980	87.5
Less than \$5,000.....	8	6	0.8	15,619	0.7	9,425	1.1	YOUNGSTOWN.....	201	15,861	100.0	92,111,272	100.0	23,034,468	100.0
\$5,000 to \$20,000.....	12	61	7.9	140,698	6.1	75,114	9.1	Less than \$5,000.....	50	46	0.3	123,688	0.1	83,409	0.4
\$20,000 to \$100,000.....	4	69	8.9	202,589	8.8	62,943	7.6	\$5,000 to \$20,000.....	69	242	1.5	672,375	0.7	380,665	1.7
\$100,000 to \$1,000,000.....	3	636	82.4	1,943,763	84.4	679,099	82.2	\$20,000 to \$100,000.....	38	708	4.5	1,874,262	2.0	1,004,068	4.4
NEWARK.....	79	4,583	100.0	9,276,762	100.0	5,702,715	100.0	\$100,000 to \$1,000,000.....	28	2,348	14.8	8,536,145	9.3	3,766,749	16.3
Less than \$5,000.....	19	18	0.4	50,071	0.5	30,687	0.5	\$1,000,000 and over.....	16	12,517	78.9	80,904,802	87.8	17,799,677	77.3
\$5,000 to \$20,000.....	25	97	2.1	236,933	2.6	141,101	2.5	ZANESVILLE.....	97	3,035	100.0	8,300,231	100.0	3,054,116	100.0
\$20,000 to \$100,000.....	22	390	8.5	971,202	10.5	464,924	8.2	Less than \$5,000.....	30	34	1.1	78,943	1.0	41,113	1.3
\$100,000 and over <sup>1</sup> .....	13	4,078	89.0	8,018,556	86.4	5,066,003	88.8	\$5,000 to \$20,000.....	24	92	3.0	229,972	2.8	126,555	4.1
NORWOOD.....	58	5,808	100.0	16,724,360	100.0	9,507,410	100.0	\$20,000 to \$100,000.....	31	930	30.6	1,678,770	20.2	958,674	31.4
Less than \$5,000.....	11	15	0.3	31,610	0.2	17,152	0.1	\$100,000 and over <sup>1</sup> .....	12	1,979	65.2	6,312,546	76.0	1,927,774	63.1
\$5,000 to \$20,000.....	16	55	0.9	156,685	0.9	101,410	1.1	ALL OTHER CITIES <sup>2</sup> .....	29	1,903	100.0	3,902,284	100.0	2,151,178	100.0
\$20,000 to \$100,000.....	10	148	2.4	364,545	2.2	205,954	2.2	Less than \$5,000.....	9	6	0.3	16,299	0.4	10,740	0.5
\$100,000 to \$1,000,000.....	16	2,084	35.9	6,309,406	37.7	3,651,045	38.4	\$5,000 to \$20,000.....	12	44	2.3	135,125	3.5	66,272	3.0
\$1,000,000 and over.....	5	3,506	60.4	9,862,114	59.0	5,531,849	58.2	\$20,000 to \$100,000.....	4	38	2.0	150,269	3.9	93,937	4.4
								\$100,000 and over <sup>1</sup> .....	4	1,815	95.4	3,600,591	92.3	1,981,209	92.1

<sup>1</sup> Includes the group "\$1,000,000 and over."<sup>2</sup> "All other cities" embrace East Cleveland and Lakewood.

In the cities the same condition prevails as that found throughout the state, namely, a preponderance as to number of wage earners, value of products, and value added by manufacture for establishments having products valued at \$100,000 or over. The highest percentage of the total value of products for establishments in this class, 97.2 per cent, appears for Lorain, followed closely by Bellaire and Youngstown, with 97.1 per cent each, while the lowest, 70.3 per cent, is shown

for Marietta. In each of the cities a considerable proportion of the total number of establishments is shown for those having products valued at less than \$20,000, but the combined value of their products is relatively small. Of the total number of establishments in the five principal cities, as measured by value of products, those in this class formed, in Cleveland, 55.2 per cent; in Cincinnati, 54 per cent; in Akron, 58.4 per cent; in Toledo, 58.2 per cent; and in Youngstown, 59.2 per



cent, whereas the value of their products formed only 2.4 per cent, 3.5 per cent, nine-tenths of 1 per cent, 2.3 per cent, and nine-tenths of 1 per cent, respectively.

Table 25 shows the size of establishment in 1914, as

measured by the number of wage earners employed, for all industries combined, for 40 of the more important industries, and for each of the 43 cities having more than 10,000 inhabitants.

Table 25

Table 25	ESTABLISHMENTS EMPLOYING—																				
	TOTAL.		No wage earners.		1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.		
			Establishments.	Wage earners (average number).	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	
INDUSTRY AND CITY.	Establishments.	Wage earners (average number).	Establishments.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.
All industries.....	15,658	510,435	1,720	7,557	17,229	3,048	34,145	1,470	47,766	801	56,944	663	104,245	249	84,905	103	72,823	47	92,378		
Agricultural implements.....	59	5,464	2	16	38	10	131	7	237	6	469	13	2,149	3	1,138	2	1,302				
Automobiles, including bodies and parts.....	102	18,752	2	20	53	31	371	14	487	8	505	14	2,170	7	2,576	3	2,473	3	10,117		
Boots and shoes, including cut stock and findings.....	73	14,674	1	7	16	9	123	9	249	7	574	25	4,342	7	2,335	6	4,402	2	2,633		
Boxes, paper and fancy.....	49	2,456		4	12	13	175	17	627	6	459	9	1,183								
Brass, bronze, and copper products.....	84	2,277	1	35	94	26	305	10	287	7	509	3	472	2	610						
Bread and other bakery products.....	1,634	7,665	258	1,144	2,354	170	1,580	37	1,170	15	1,088	10	1,473								
Brick, tile, pottery, and other clay products.....	549	27,334	5	195	515	108	1,314	79	2,754	77	5,227	67	10,628	15	4,718	3	2,178				
Canning and preserving.....	135	2,507	3	44	125	59	648	19	619	5	383	5	732								
Carriages and wagons and materials.....	341	5,997	16	149	451	106	1,153	40	1,309	21	1,515	8	1,313	1	256						
Cars and general shop construction and repairs by steam-railroad companies.....	88	21,639				6	95	12	452	18	1,240	22	3,745	22	7,617	5	3,518	3	4,972		
Cars, steam-railroad, not including operations of railroad companies.....	5	2,885						1	36	2	162					1	929	1	1,758		
Chemicals.....	29	2,017		10	19	9	114	3	101	3	182	1	194	2	843	1	564				
Clothing, men's, including shirts.....	257	10,758	6	62	189	32	948	53	1,743	35	2,365	12	1,920	5	1,895	1	562	1	1,136		
Clothing, women's.....	170	9,775	1	44	115	44	485	40	1,331	20	1,326	13	1,746	5	1,718	2	1,561	1	1,403		
Confectionery.....	132	3,149	2	64	158	26	291	22	735	8	596	9	1,101	1	268						
Copper, tin, and sheet-iron products.....	288	7,448	12	141	339	80	895	27	798	10	698	10	1,818	8	2,900						
Cutlery and tools, not elsewhere specified.....	81	3,199	5	31	72	19	179	12	380	8	577	3	382	1	271	2	1,338				
Electrical machinery, apparatus, and supplies.....	119	12,695	4	40	116	24	284	16	583	10	662	11	1,827	6	2,121	4	2,482	4	4,020		
Flour-mill and gristmill products.....	649	2,363	78	487	1,053	69	628	8	215	7	467										
Foundry and machine-shop products.....	1,379	73,103	57	455	1,153	332	3,933	217	7,365	147	10,927	104	17,109	47	16,314	15	10,153	5	6,149		
Furniture and refrigerators.....	213	7,831	13	54	147	59	760	45	1,511	26	1,904	14	2,059			2	1,450				
Glass.....	39	10,997						4	113	3	211	16	2,561	9	3,082	7	5,030				
Hosiery and knit goods.....	38	3,411		4	10	6	71	9	305	5	432	11	1,763	3	830						
Iron and steel blast furnaces.....	33	5,786								10	740	11	1,731	5	1,533	3	1,725				
Iron and steel, steel works and rolling mills.....	70	46,397		1	3	2	25	3	101	6	455	13	2,309	12	4,481	23	16,743	10	22,280		
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works and rolling mills.....	15	2,365				4	53	3	115	3	188	1	148	3	922	1	939				
Iron and steel forgings, not made in steel works or rolling mills.....	29	2,308		3	9	6	82	7	251	4	296	8	1,218	1	452						
Iron and steel, wrought pipe.....	5	2,285		1	4							1	176	1	284	1	795	1	1,026		
Liquors, malt.....	101	5,340		6	12	34	433	29	972	19	1,324	9	1,279	4	1,320						
Lumber and timber products.....	1,188	11,921	41	721	1,717	288	3,103	99	3,094	26	1,716	11	1,548	2	743						
Marble and stone work.....	213	2,523	24	132	274	32	355	17	587	4	306	2	327	2	674						
Paint and varnish.....	95	2,107	4	44	103	26	282	13	423	3	244	3	489	2	566						
Paper and wood pulp.....	48	5,430		1	2	3	47	12	398	16	1,142	12	1,810	3	977			1	1,054		
Paper goods, not elsewhere specified.....	29	2,209	1	10	26	6	74	4	114	4	231	1	159	2	781	1	884				
Printing and publishing.....	1,783	18,070	395	860	2,152	346	3,831	117	3,504	34	2,359	26	4,175	4	1,476	1	573				
Rubber goods, not elsewhere specified.....	54	21,705	1	8	16	14	162	7	230	6	453	9	1,376	1	340	4	2,774	4	10,354		
Shipbuilding, including boat building.....	29	2,879	3	13	27	4	42	2	59	2	128	1	232	2	663	2	1,728				
Slaughtering and meat packing.....	169	3,619	27	69	157	36	412	18	569	12	879	5	697	1	302	1	603				
Stoves and furnaces, including gas and oil stoves.....	105	8,575	2	17	55	29	336	19	601	18	1,321	13	1,691	4	1,298	1	564	2	2,709		
Tobacco manufactures.....	961	13,282	312	474	919	86	937	34	1,084	21	1,469	21	3,577	12	3,884			1	1,412		
All other industries.....	4,218	95,178	444	2,191	4,724	840	9,431	385	12,257	159	11,215	136	20,616	44	14,717	11	7,553	8	14,665		
Total for cities.....	9,588	387,632	1,039	3,990	9,709	2,104	23,894	1,087	34,373	573	39,792	477	75,170	193	63,173	81	57,897	44	83,624		
AKRON.....	305	24,680	32	139	294	57	636	31	1,023	20	1,410	14	1,974	5	1,463	4	2,628	3	15,252		
ALLIANCE.....	52	2,333	4	24	48	11	119	7	219	1	55	1	206	3	1,048	1	638				
ASHTABULA.....	57	1,868		32	88	9	103	8	189			7	1,149	1	339						
BARBERTON.....	34	3,118	1	22	48	3	30					3	533	3	701	1	609	1	1,197		
BELLAIRE.....	40	2,603	4	18	48	10	103	2	59			1	230	3	1,019	2	1,144				
CAMBRIDGE.....	39	1,455	3	15	40	14	130	2	72	1	92	2	384	2	737						
CANTON.....	276	12,255	2	104	338	64	660	38	925	29	1,586	19	2,270	16	3,200	3	1,266	1	2,010		
CHILLICOTHE.....	46	1,557	1	22	56	12	109	5	161	2	178	3	457			1	596				
CINCINNATI.....	2,135	89,891	256	792	2,016	502	5,788	299	9,816	142	9,682	109	17,014	27	9,177	7	5,042	1	1,326		
CLEVELAND.....	2,345	103,317	280	957	2,279	499	5,749	249	7,852	143	10,027	121	18,871	57	19,011	23	17,958	16	21,570		
COLUMBUS.....	643	17,236	94	257	661	138	1,538	82	2,359	42	3,007	20	3,043	5	1,649	3	1,791	2	3,188		
COSHOCTON.....	47	1,614	5	17	43	14	158	5	189	2	160	2	424	2	640						
DAYTON.....	523	24,061	49	226	546	125	1,320	54	1,636	34	2,725	23	4,081	6	2,665	1	996	5	10,692		
EAST CLEVELAND.....	7	129		4	4	2	21					1	104								
EAST LIVERPOOL.....	80	4,830	5	33	83	16	192	6	207	6	412	8	1,334	4	1,109	2	1,493				

Table 25—Continued.

Table 25—Continued.	TOTAL.		ESTABLISHMENTS EMPLOYING—																	
			No wage earners.		1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.	
	INDUSTRY AND CITY.	Estab-lish-ments.	Wage earners (average number).	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	
ELYRIA.....	63	2,735	6	26	62	14	191	4	125	4	318	5	737	4	1,302	—	—	—	—	
FINDLAY.....	78	1,737	11	32	75	21	219	7	223	2	176	3	399	2	645	—	—	—	—	
FOSTORIA.....	47	1,252	5	21	47	9	91	4	140	4	287	3	418	1	269	—	—	—	—	
FREMONT.....	65	2,063	4	31	61	16	216	5	106	2	140	5	745	1	271	1	524	—	—	
HAMILTON.....	129	6,043	18	48	116	30	309	10	289	9	628	8	1,518	4	1,565	1	564	1	1,054	
IRONTON.....	59	1,420	2	25	57	16	187	8	262	4	297	4	617	—	—	—	—	—	—	
LAKEWOOD.....	22	1,774	5	11	29	3	34	—	—	1	77	—	—	1	404	—	—	1	1,230	
LANCASTER.....	53	1,583	—	32	78	10	97	3	58	3	210	4	721	1	419	—	—	—	—	
LIMA.....	97	4,876	6	45	93	21	225	17	588	3	113	1	114	2	657	—	—	2	3,086	
LORAIN.....	66	6,436	6	34	66	14	153	3	60	3	51	2	385	2	732	1	876	1	4,113	
MANSFIELD.....	103	3,398	7	52	157	18	223	10	340	5	360	8	1,094	2	647	1	577	—	—	
MARIETTA.....	71	1,401	4	37	93	17	222	7	214	4	378	2	494	—	—	—	—	—	—	
MARION.....	66	2,577	11	30	56	14	158	6	183	—	—	2	226	2	765	—	—	1	1,189	
MASSILLON.....	70	1,768	1	38	85	16	201	6	183	4	292	3	424	2	583	—	—	—	—	
MIDDLETOWN.....	63	4,003	3	30	71	15	204	3	112	4	304	4	462	3	1,100	—	—	1	1,750	
MOUNT VERNON.....	27	772	5	14	33	4	57	2	66	—	—	1	218	1	398	—	—	—	—	
NEWARK.....	79	4,583	9	36	102	15	183	12	401	—	—	3	473	1	411	2	1,565	1	1,448	
NORWOOD.....	58	5,808	2	24	62	11	149	3	87	3	215	10	1,790	1	284	4	3,221	—	—	
PIQUA.....	78	2,777	5	39	89	13	175	11	277	4	259	3	782	3	1,195	—	—	—	—	
PORTSMOUTH.....	76	3,597	9	36	91	16	185	6	225	5	379	1	160	—	—	2	1,249	1	1,308	
SANDUSKY.....	107	2,727	11	34	74	30	361	16	500	9	608	5	624	2	560	—	—	—	—	
SPRINGFIELD.....	253	7,868	35	119	289	45	525	21	662	11	740	16	2,457	4	1,418	1	725	1	1,052	
STEUBENVILLE.....	60	4,506	7	28	69	14	156	2	67	—	—	6	1,019	2	731	—	—	1	2,464	
TIFFIN.....	76	2,177	3	38	87	17	178	9	288	4	243	3	462	2	919	—	—	—	—	
TOLEDO.....	713	27,076	105	276	650	157	1,753	88	2,996	41	2,870	28	4,596	12	3,993	5	3,824	1	6,394	
WARREN.....	82	2,862	—	51	118	14	160	6	196	6	473	3	577	—	—	2	1,338	—	—	
YOUNGSTOWN.....	201	15,861	15	95	197	41	439	17	576	9	537	7	1,116	2	617	12	8,478	3	3,901	
ZANESVILLE.....	97	3,035	8	46	110	17	187	13	442	7	503	3	468	2	530	1	795	—	—	

Table 26 presents, for 1914, the percentages based on the figures in Table 25, and for 1909, similar percentages for all industries combined and for individual industries in the state as a whole.

Table 26

INDUSTRY AND CITY.	Census year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.								INDUSTRY AND CITY.	Census year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.							
		1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000			1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000
		1914	1909	1914	1909	1914	1909	1914	1909			1914	1909	1914	1909	1914	1909	1914	1909
All industries.....	1914 1909	3.4 3.8	6.7 7.9	9.4 10.5	11.2 11.7	20.4 22.1	16.6 15.6	14.3 15.9	18.1 12.5	Confectionery.....	1914 1909	5.0 4.4	9.2 12.2	23.3 18.3	18.9 25.9	35.0 39.2	8.5 —	—	—
Agricultural implements.....	1914 1909	0.7 0.6	2.4 1.5	4.3 5.3	8.6 3.8	39.3 36.2	20.8 21.5	23.8 8.8	— 22.4	Copper, tin, and sheet-iron products.	1914 1909	4.6 4.3	12.0 8.5	10.7 13.6	9.4 9.6	24.4 31.9	38.9 32.1	—	—
Automobiles, including bodies and parts.	1914 1909	0.3 0.3	2.0 1.7	2.6 3.2	2.7 4.8	11.6 11.7	13.7 26.8	13.2 11.1	54.0 40.4	Cutlery and tools, not elsewhere specified.	1914 1909	2.3 1.8	5.6 9.4	11.9 9.8	18.0 21.0	11.9 4.4	8.5 9.1	41.8 44.5	—
Boots and shoes, including cut stock and findings.	1914 1909	0.1 0.1	0.8 0.7	1.7 1.0	3.9 4.6	29.6 24.2	15.9 20.6	30.0 30.6	17.9 18.1	Electrical machinery, apparatus, and supplies.	1914 1909	0.9 1.0	2.2 4.2	4.6 5.5	5.2 10.3	14.4 30.3	16.7 24.1	19.6 10.0	36.4 14.6
Boxes, fancy and paper.....	1914 1909	0.5 0.4	7.1 4.5	25.5 22.5	18.7 24.2	48.2 48.5	—	—	—	Flour-mill and gristmill products.	1914 1909	44.6 45.7	26.6 25.0	9.1 16.5	19.8 7.0	—	—	—	—
Brass, bronze, and copper products.	1914 1909	4.1 4.0	13.4 15.9	12.6 12.8	22.4 15.2	20.7 13.3	26.8 38.8	—	—	Foundry and machine-shop products.	1914 1909	1.6 1.6	5.4 5.9	10.1 11.1	14.9 14.2	23.4 26.4	22.3 18.4	13.9 16.3	8.4 6.1
Bread and other bakery products.	1914 1909	30.7 35.5	20.6 23.3	15.3 12.1	14.2 15.4	19.2 13.7	—	—	—	Furniture and refrigerators.....	1914 1909	1.9 1.5	9.7 9.0	19.3 28.0	24.3 20.3	26.3 24.7	8.2 8.2	18.5 8.2	—
Brick, tile, pottery, and other clay products.	1914 1909	1.9 3.3	4.8 7.3	10.1 16.0	19.1 20.3	38.9 35.9	17.3 9.6	8.0 7.6	—	Glass.....	1914 1909	—	—	1.0 1.6	1.9 5.4	23.3 26.2	28.0 22.2	45.7 33.9	—
Canning and preserving.....	1914 1909	5.0 6.8	25.8 21.8	24.7 29.7	15.3 15.1	29.2 13.5	—	—	—	Hosiery and knit goods.....	1914 1909	0.3 0.8	2.1 9.7	8.9 7.3	12.7 21.3	51.7 49.2	24.3 20.5	—	—
Carriages and wagons and materials.	1914 1909	7.5 5.8	19.2 16.4	21.8 19.4	25.3 22.5	21.9 35.9	4.3 —	—	—	Iron and steel, blast furnaces....	1914 1909	—	—	1.0 (1)	—	12.8 8.7	29.9 43.2	26.5 30.1	29.8 16.4
Cars and general shop construction and repairs by steam-railroad companies.	1914 1909	—	0.4 (1)	2.1 0.8	5.7 2.7	17.3 9.4	35.2 36.5	16.3 40.6	23.0 9.6	Iron and steel, steel works and rolling mills.	1914 1909	—	—	0.2 0.2	0.4 1.4	5.0 7.4	9.7 17.6	33.1 31.5	48.0 41.6
Cars, steam-railroad, not including operations of railroad companies.	1914 1909	—	—	1.2 2.1	5.6 2.3	—	32.2 11.0	60.9 79.3	—	Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.	1914 1909	—	—	2.2 1.8	4.9 4.4	7.9 4.5	6.2 18.5	39.0 11.1	39.7 59.6
Chemicals.....	1914 1909	0.9 2.4	5.7 14.1	5.0 5.0	9.0 5.1	9.6 11.1	41.8 62.2	28.0 —	—	Iron and steel forgings, not made in steel works or rolling mills.	1914 1909	0.4 1.2	3.6 3.6	10.9 4.8	12.8 18.4	52.8 72.0	19.6 —	—	—
Clothing, men's, including shirts.	1914 1909	1.8 3.1	8.8 17.1	16.2 19.5	22.0 17.2	17.8 20.5	5.2 6.2	10.6 10.8	—	Iron and steel, wrought pipe....	1914 1909	0.2 0.5	—	—	—	7.7 25.3	12.4 —	34.8 71.2	44.9 —
Clothing, women's.....	1914 1909	1.2 1.5	4.9 5.5	13.6 11.7	13.6 15.9	17.9 30.2	17.6 17.6	16.0 5.7	15.3 12.0	Liquors, malt.....	1914 1909	0.2 0.3	8.1 11.4	18.2 25.9	24.8 19.1	24.0 21.0	24.7 22.3	—	—

1 Less than one-tenth of 1 per cent.

## MANUFACTURES—OHIO.

INDUSTRY AND CITY.	Cen- sus year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.								INDUSTRY AND CITY.	Cen- sus year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.							
		1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000			1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000
Lumber and timber products...	1914 1909	14.4 15.0	26.0 30.2	26.0 26.5	14.4 15.7	13.0 12.7	6.2	.....	.....	CAMBRIDGE.....	1914	2.7	8.9	4.9	6.3	26.4	50.7	.....	.....
Marble and stone work.....	1914 1909	10.9 13.2	14.1 21.0	23.3 20.3	12.1 8.0	13.0 22.4	26.7 15.1	.....	.....	CANTON.....	1914	2.8	5.4	7.5	12.9	18.5	26.1	10.3	16.4
Paint and varnish.....	1914 1909	4.9 8.4	13.4 14.1	20.1 14.8	11.6	23.2	26.9	.....	.....	CHILlicothe.....	1914	3.0	7.0	10.3	11.4	29.4	.....	38.3	.....
Paper and wood pulp.....	1914 1909	(1)	0.9	7.3	21.0	33.3	18.0	.....	19.4	CINCINNATI.....	1914	3.4	9.7	16.4	16.2	28.4	15.3	8.4	2.2
Paper goods, not elsewhere specified.	1914 1909	1.1 1.1	3.3 4.0	5.0 8.3	10.2 10.9	7.0 7.1	34.4 32.0	39.0 36.6	.....	CLEVELAND.....	1914	2.2	5.6	7.6	9.7	18.3	18.4	17.4	20.9
Printing and publishing.....	1914 1909	11.9 13.1	21.2 23.6	19.4 20.1	13.1 16.7	23.1 18.2	8.2 7.0	3.2 3.3	.....	COLUMBUS.....	1914	3.8	8.9	13.7	17.4	17.7	9.6	10.4	18.5
Rubber goods, not elsewhere specified.	1914 1909	0.1 0.3	0.7 0.8	1.1 2.1	2.1 0.9	6.3 6.8	1.6 6.2	12.8 15.7	75.3 67.1	COSHOCOTON.....	1914	2.7	9.8	11.7	9.9	26.3	39.7	.....	.....
Shipbuilding, including boat building.	1914 1909	0.9 0.8	1.5 2.8	2.0 4.8	4.4 3.4	8.1 16.3	23.0 8.8	60.0 45.8	33.6	DAYTON.....	1914	2.3	5.5	6.8	11.3	17.0	11.1	4.1	41.9
Slaughtering and meat packing..	1914 1909	4.3 6.6	11.4 13.0	15.7 15.4	24.3 21.1	19.3 11.2	8.3 18.7	16.7	.....	EAST CLEVELAND.....	1914	3.1	16.3	.....	.....	80.6	.....	.....	.....
Stoves and furnaces, including gas and oil stoves.	1914 1909	0.6 0.9	3.9 3.6	7.0 8.0	15.4 18.6	19.7 25.5	15.1 10.6	6.6 15.8	31.6 17.0	EAST LIVERPOOL.....	1914	1.7	4.0	4.3	8.5	27.6	23.0	30.9	.....
Tobacco manufactures.....	1914 1909	6.9 9.0	7.1 9.1	8.2 10.0	11.1 9.7	26.9 23.6	29.2 18.2	10.6 20.4	.....	ELYRIA.....	1914	2.3	7.0	4.6	11.6	26.9	47.6	.....	.....
All other industries.....	1914 1909	5.0 4.8	9.9 10.7	12.9 12.4	11.8 12.7	21.7 22.3	15.5 12.8	7.9 12.7	15.4 11.5	FINDLAY.....	1914	4.3	12.6	12.8	10.1	23.0	37.1	.....	.....
Total for cities.....	1914	2.5	6.2	8.9	10.3	19.4	16.3	14.9	21.6	FOSTORIA.....	1914	3.8	7.3	11.2	22.9	33.4	21.5	.....	.....
AKRON.....	1914	1.2	2.6	4.1	5.7	8.0	5.9	10.6	61.8	FREMONT.....	1914	3.0	10.5	5.1	6.8	36.1	13.1	25.4	.....
ALLIANCE.....	1914	2.1	5.1	9.4	2.4	8.8	44.9	27.3	.....	HAMILTON.....	1914	1.9	5.1	4.8	10.4	25.1	25.9	9.3	17.4
ASHTABULA.....	1914	4.7	5.5	10.1	.....	61.5	18.1	.....	.....	IRONTON.....	1914	4.0	13.2	18.5	20.9	43.5	.....	.....	69.3
BARBERTON.....	1914	1.5	1.0	.....	17.1	22.5	19.5	38.4	.....	LAKEWOOD.....	1914	1.6	1.9	.....	4.3	.....	22.8	.....	.....
BELLAIRE.....	1914	1.8	4.0	2.3	.....	8.8	39.1	43.9	.....	LANCASTER.....	1914	4.9	6.1	3.7	13.3	45.5	26.5	.....	.....
										LIMA.....	1914	1.9	4.6	12.1	2.3	2.3	13.5	.....	63.3
										LORAIN.....	1914	1.0	2.4	0.9	0.8	6.0	11.4	13.6	63.9
										MANSFIELD.....	1914	4.6	6.6	10.0	10.6	32.2	19.0	17.0	.....
										MARIETTA.....	1914	6.0	15.8	15.3	27.0	35.3	.....	.....	.....
										MARION.....	1914	2.2	6.1	7.1	.....	8.8	29.7	.....	46.1
										MASSILON.....	1914	4.8	11.4	10.4	16.5	24.0	33.0	.....	.....
										MIDDLETOWN.....	1914	1.8	5.1	2.8	7.0	11.5	27.5	.....	43.7
										MOUNT VERNON.....	1914	4.3	7.4	8.5	.....	28.2	51.6	.....	.....
										NEWARK.....	1914	2.2	4.0	8.7	.....	10.3	9.0	34.1	31.6
										NORWOOD.....	1914	1.1	2.6	1.5	3.7	30.8	4.9	55.5	.....
										PIQUA.....	1914	3.2	6.3	10.0	9.3	28.1	43.0	.....	.....
										PORTSMOUTH.....	1914	2.5	5.1	6.3	10.5	4.4	.....	34.7	36.4
										SANDUSKY.....	1914	2.7	13.2	18.3	22.3	22.9	20.5	.....	.....
										SPRINGFIELD.....	1914	3.7	6.7	8.4	9.4	31.2	18.0	9.2	13.4
										STUBENVILLE.....	1914	1.5	3.5	1.5	.....	22.6	16.2	.....	54.7
										TYFEN.....	1914	4.0	8.2	13.2	11.2	21.2	42.2	.....	.....
										TOLEDO.....	1914	2.4	6.5	11.1	10.0	17.0	14.7	14.1	23.6
										WARREN.....	1914	4.1	5.6	6.8	16.5	20.2	.....	46.8	.....
										YOUNGSTOWN.....	1914	1.2	2.8	3.6	3.4	7.0	3.9	53.5	24.6
										ZANESVILLE.....	1914	3.6	6.2	14.6	16.6	15.4	17.5	26.2	.....

<sup>1</sup> Less than one-tenth of 1 per cent.

Of the 15,658 establishments reported for all manufacturing industries in the state, 1,720, or 11 per cent, employed no wage earners in 1914. These were small establishments in which the work is done by the proprietors and firm members. If wage earners were employed, the number was so small and the term of employment so short, that in computing the average, as described in the "Explanation of terms," the number was less than one person and the establishment was classed as one having "no wage earners." The small establishments, those employing from 1 to 20 wage earners, predominate in the majority of the industries of the state. While they represented 67.7 per cent of the total number of establishments, they reported but 10.1 per cent of the total number of wage earners. On the other hand, the group of establishments having more than 100 wage earners, while comprising but 6.8 per cent of the total number of establishments, employed 69.4 per cent of the wage earners. The industries in which comparatively large establishments do most of the business are steam-railroad repair shops; steel works and rolling mills; the manufacture of automobiles, including bodies and parts; boots and shoes, including cut stock and findings; brick, tile, pottery, and other clay products; clothing, men's and women's; electrical machinery, apparatus and supplies; glass; rubber goods; and tobacco.

Among the cities, the highest percentage of the total number of wage earners reported by establish-

ments employing more than 100 wage earners each is shown for Barberton, 97.5 per cent; Lorain, 94.9 per cent; and Steubenville, 93.5 per cent. In Cleveland 75 per cent of the total number of wage earners in all industries were in such establishments, and in Cincinnati 54.3 per cent.

**Engines and power.**—Table 27 shows, for 1914, 1909, and 1904, for all industries combined, the number and horsepower of engines and motors employed in generating power (including electric motors operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated by the establishments reporting.

The table shows an increase in primary power amounting to 419,625 horsepower, or 26.5 per cent, from 1909 to 1914, more than half of which was due to the increase in rented power. Although steam furnished the bulk of the total power reported, the use of rented power, almost wholly electric, has greatly increased during the decade, the proportion of horsepower of this character reported in 1914 being over ten times as great as that in 1904. While the amount of electric power generated within the establishments where produced is greater than that of electric rented power, the proportion which it forms of the total electric power used has decreased from 84 per cent in 1904 to 65.6 per cent in 1914. The use of internal-combustion engines has increased during the decade, while a decrease is shown for water wheels, turbines, and motors.

Table 27

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
				Amount.			Per cent distribution.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904
Primary power, total.....	45,288	25,970	11,598	2,002,780	1,583,155	1,116,932	100.0	100.0	100.0
Owned.....	12,738	13,012	11,598	1,712,136	1,483,628	1,088,030	85.5	93.7	97.4
Steam engines and turbines <sup>1</sup> .....	8,348	9,246	9,083	1,541,212	1,363,720	1,034,780	77.0	86.1	92.6
Internal-combustion engines.....	4,059	3,354	2,004	150,481	103,801	35,101	7.8	6.6	3.1
Water wheels, turbines, and motors.....	333	412	531	14,443	16,107	18,149	0.7	1.0	1.6
Rented.....	32,550	12,958	—	290,644	99,527	28,902	14.5	6.3	2.6
Electric.....	32,550	12,958	(?)	283,514	93,592	23,159	14.2	5.9	2.1
Other.....	—	—	—	7,130	5,935	5,743	0.4	0.4	0.5
Electric.....	66,137	34,237	8,668	823,000	417,844	144,467	100.0	100.0	100.0
Rented.....	32,550	12,958	—	283,514	93,592	23,159	34.4	22.4	16.0
Generated by establishments reporting.....	33,587	21,279	8,668	539,486	324,252	121,308	65.6	77.6	84.0

<sup>1</sup> Figures for horsepower include for 1909 and 1904 the amounts reported under the head of "other" owned power.<sup>2</sup> Not reported.

**Fuel.**—Closely related to the kind of power employed in manufactures is that of the fuel consumed in generating this power or otherwise used in the manufacturing processes. Table 28 shows, for 1914,

the quantity of each kind of fuel used, for which data were obtained, for all industries combined and for certain selected industries in the state as a whole, and for all industries combined in each city.

Table 28

INDUSTRY AND CITY.	COAL.		Coke (tons, 2,000 lbs.).	Oil, including gaso-line (barrels).	Gas (1,000 cubic feet).	INDUSTRY AND CITY.	COAL.		Coke (tons, 2,000 lbs.).	Oil, including gaso-line (barrels).	Gas (1,000 cubic feet).
	An-thra-cite (tons, 2,240 lbs.).	Bitu-minous (tons, 2,000 lbs.).					An-thra-cite (tons, 2,240 lbs.).	Bitu-minous (tons, 2,000 lbs.).			
All industries.....	43,198	13,927,612	6,267,733	678,239	50,092,157	Total for cities.....	33,128	8,212,048	4,176,553	519,818	36,157,096
Agricultural implements.....	—	44,408	9,089	9,558	193,264	AKRON.....	410	537,937	7,411	7,291	1,125,596
Automobiles, including bodies and parts.....	7,640	97,177	1,411	71,411	522,727	ALLIANCE.....	62	88,333	2,595	3,260	8,549
Boots and shoes, including outstock and findings.....	100	32,201	1,983	431	101,855	ASHTABULA.....	153	28,312	770	2,115	73,984
Brass, bronze, and copper products.....	47	14,612	6,508	6,018	207,507	BARBERTON.....	—	106,763	3,493	648	134,288
Bread and other bakery products.....	3,774	32,516	19,827	727	1,297,877	BELLAIRE.....	—	77,400	270,646	24	972,567
Brick, tile, pottery, and other clay products.....	4,933	2,289,876	10,748	3,969	9,213,177	CAMBRIDGE.....	—	68,304	20	9	200,842
Butter, cheese, and condensed milk.....	—	58,470	—	159	87,634	CANTON.....	226	447,721	12,744	37,167	2,037,927
Carriages and wagons and materials.....	306	57,563	1,238	11,521	62,467	CHILLICOTHE.....	21	57,260	44	2,083	90,460
Cars and general shop construction and repairs by steam-railroad companies.....	449	463,479	3,640	24,399	162,938	CINCINNATI.....	2,015	590,349	20,658	15,239	1,702,631
Cars, steam-railroad, not including operations of railroad companies.....	53	34,153	1,375	22,361	126,309	CLEVELAND.....	16,657	1,863,423	1,138,216	169,746	10,474,393
Chemicals.....	—	381,767	56,168	502	1,525,141	COLUMBUS.....	1,316	260,552	10,281	14,866	970,783
Clothing, men's, including shirts.....	13	6,539	—	83	54,169	COSHOCOTON.....	—	25,001	322	27	79,409
Clothing, women's.....	27	5,427	6	—	29,205	DAYTON.....	2,014	343,582	18,062	32,341	207,326
Coffee and spice, roasting and grinding.....	688	2,817	147	10	38,199	EAST CLEVELAND.....	—	4,691	—	—	604
Confectionery.....	1,332	23,561	527	232	338,780	EAST LIVERPOOL.....	3,170	43,108	318	286	3,515,944
Copper, tin, and sheet-iron products.....	763	105,576	1,170	1,157	557,823	ELYRIA.....	—	41,078	2,118	5,109	160,969
Electrical machinery, apparatus, and supplies.....	81	59,496	1,257	5,407	1,094,336	FINDLAY.....	72	51,685	174	494	27,893
Flour-mill and gristmill products.....	880	148,071	330	3,082	238,027	FOSTORIA.....	200	22,317	759	2,775	334,255
Foundry and machine-shop products.....	6,227	745,193	189,993	102,053	4,481,118	FREMONT.....	629	9,010	1,085	2,835	255,565
Furniture and refrigerators.....	542	72,747	1,132	243	58,033	HAMILTON.....	13	173,469	10,230	541	795,298
Glass.....	—	271,397	675	6,480	7,251,445	IRONTON.....	14	14,213	138,362	20	312,127
Ice, manufactured.....	309	230,011	4	315	828,456	LAKEWOOD.....	—	3,540	241	—	572,953
Iron and steel, blast furnaces.....	—	195,662	5,736,226	9,588	11,775	LANCASTER.....	10	5,187	550	159	82,980
Iron and steel, steel works and rolling mills.....	574	4,209,990	134,533	132,124	12,067,011	LMA.....	6	55,583	2,766	17,536	63,309
Liquors, malt.....	268	327,531	1,246	388	1,595,729	LORAIN.....	86	569,329	575,917	4,271	231,764
Lumber and timber products.....	1,551	66,910	131	2,092	153,961	MANSFIELD.....	282	11,673	2,797	973	733,160
Paint and varnish.....	13	18,026	3,540	9	223,179	MARIETTA.....	201	7,862	695	14	352,035
Paper and wood pulp.....	—	625,807	12,051	179	210,388	MARION.....	84	38,895	2,900	4,682	122,076
Paving materials.....	—	105,277	—	799	36,511	MASSILLON.....	25	41,966	5,954	2,045	19,652
Petroleum, refining.....	—	244,738	3,433	15,989	188,311	MIDDLETOWN.....	31	220,050	17,132	21,985	1,626,683
Printing and publishing.....	895	40,519	714	889	409,403	MOUNT VERNON.....	—	5,609	550	1	170,074
Rubber goods, not elsewhere specified.....	—	465,184	—	49	361,961	NEWARK.....	270	50,105	4,513	416	4,044,936
Slaughtering and meat packing.....	5	92,395	200	75	396,637	NORWOOD.....	—	50,477	1,477	1,437	108,050
Stoves and furnaces, including gas and oil stoves.....	2,545	42,026	19,581	192	177,313	PIQUA.....	26	28,276	2,518	2,018	27,188
Tin plate and tinnerplate.....	—	22,130	—	—	123,423	PORTSMOUTH.....	3	30,002	973	57	309,740
All other industries.....	9,183	2,294,360	48,810	245,748	5,671,068	SANDUSKY.....	18	63,531	1,776	295	315,009
						SPRINGFIELD.....	1,180	65,676	13,086	11,922	182,479
						STREUBENVILLE.....	2	468,522	204,290	153	907,605
						TIPPIN.....	32	18,278	3,449	303	732,813
						TOLEDO.....	3,583	343,924	224,668	110,223	750,631
						WARREN.....	—	72,911	656	680	12,977
						YOUNGSTOWN.....	317	1,096,744	1,470,823	43,680	1,069,737
						ZANESVILLE.....	—	110,020	514	44	239,747

## SPECIAL STATISTICS.

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and cost of materials, the quantity and value of products, and other information for securing which no provision is made on the general schedule. Certain data of this character for 19 important industries and for power laundries in Ohio are here presented.

**Iron and steel.**—A large proportion of the pig-iron product of the blast furnaces is used in cooperating steel plants, more than 70 per cent being made for consumption by the producing companies; and all of the tin-plate and terneplate product of the state is made by companies that roll the black plates. Hence there is considerable duplication in cost of materials and in value of products between these separately classified industries. Considered as a combined industry, the blast furnaces, steel works and rolling mills, and tin and terne dipping plants gave employment to 53,136 wage earners, represent a capital investment of \$330,896,624, and show in added value the sum of \$78,961,099. The figures for 1909 for the combined industries are: Wage earners, 46,557; capital, \$258,980,157; and value added by manufacture, \$74,545,627. The increases in these items, 1909–1914, were 14.1 per cent, 27.8 per cent, and 5.9 per cent, respectively.

Ohio ranks second among the states as to the combined industries and the first two branches, and third in the production of tin plate and terneplate.

The industrial depression of 1914 accounts for the decrease in many of the items. The pig-iron tonnage in 1914 was 3.2 per cent less than in 1909 and was more than 1,800,000 tons below the output of 1913. Practically all the product is coke iron; that made with other fuels—some with mixed bituminous coal and coke, and some with charcoal—forming but 1.1 per cent of the total. There is a marked increase in the proportion of machine-cast pig iron. In 1914, 53 per cent was delivered molten, 31 per cent was machine cast, and but 12.1 per cent sand cast. In 1909, 50 per cent was delivered molten, 17.3 per cent was machine cast, and 29.8 per cent sand cast. There was a marked increase in the proportion of iron of basic grade. In 1914, 54.6 per cent of the product was Bessemer, 28.7 per cent basic, and 10.3 per cent foundry. In 1909, 63.5 per cent was Bessemer, 14.7 per cent basic, and 13.1 per cent foundry.

The statistics given in the table with respect to equipment refer only to that of establishments that were active at some time during the year. At the close of the year 1914, there were 74 blast furnaces in the state in active and idle establishments of 8,828,000 tons annual capacity, according to the annual statistical report of the American Iron and Steel Institute. It thus appears that the output for

the year was a little less than 60 per cent of the possible output. Since 1909 the power capacity of internal-combustion engines operated with blast-furnace gas has more than doubled.

**Blast furnaces.**—The following table gives the statistics for materials, products, and equipment for the blast furnaces for 1914, 1909, and 1904.

Table 29	1914	1909	1904
<b>MATERIALS.</b> (Tons, 2,240 lbs.)			
Total cost.....	\$60,738,524	\$68,424,722	\$32,476,727
Iron ore:			
Tons.....	9,624,750	9,884,358	5,266,473
Cost.....	\$36,348,602	\$41,830,645	\$18,881,573
Mill cinder, scale, scrap, slag, etc.:			
Tons.....	353,518	368,931	328,841
Cost.....	\$806,739	\$1,041,384	\$604,526
Fluxes:			
Tons.....	2,752,381	2,693,423	1,464,057
Cost.....	\$2,796,342	\$2,597,107	\$1,348,400
Fuel for smelting, total cost.....	\$18,552,678	\$20,598,130	.....
Coke—			
Tons (2,000 lbs.).....	5,816,260	6,050,491	3,432,905
Cost.....	\$18,750,140	\$20,433,686	\$10,548,220
Bituminous coal and charcoal.....	\$102,538	\$159,444	.....
All other fuel and rent of power.....	\$506,082		
All other materials.....	\$1,428,031	\$2,362,456	\$1,093,999
<b>PRODUCTS.</b> (Tons, 2,240 lbs.)			
Total value.....	\$72,969,368	\$83,699,238	\$40,862,451
Pig iron:			
Tons.....	5,279,045	5,446,971	2,987,787
Value.....	\$71,686,701	\$82,048,712	\$40,705,777
For consumption in works of company producing—			
Tons.....	3,877,188	3,564,358	1,751,730
Assigned value.....	\$52,469,007	\$53,108,589	\$23,624,236
For sale—			
Tons.....	1,401,857	1,882,613	1,236,057
Value.....	\$19,217,694	\$28,940,123	\$17,081,541
All other products.....	\$1,282,667	\$1,650,526	\$156,674
Pig iron, classified according to fuel used:			
Coke—			
Tons.....	5,219,564	5,376,398	2,987,149
Value.....	\$70,759,573	\$80,813,570	\$40,689,717
All other, bituminous coal and coke mixed, and charcoal—			
Tons.....	59,481	70,573	638
Value.....	\$927,128	\$1,235,142	\$16,000
Pig iron, classified according to grades, tons:			
Bessemer.....	2,880,759	3,456,131	2,120,643
Basic.....	1,516,905	798,173	206,458
Foundry.....	541,354	714,322	441,227
Malleable.....	194,806	364,067	127,330
Forge or mill.....	75,095	60,805	66,729
Ferrosilicon.....	65,778	47,352	16,494
All other.....	4,548	6,121	8,906
Pig iron, classified by method of delivery or casting, tons:			
Delivered in molten condition to steel works, etc.....	2,797,254	2,723,700	1,105,159
Machine cast.....	1,635,242	945,036	516,338
Sand cast.....	636,639	1,625,073	1,361,161
Chill cast and direct castings.....	209,910	153,162	5,129
<b>EQUIPMENT.</b>			
Furnaces in active establishments:			
Completed stacks at end of year—			
Number.....	61	67	53
Daily capacity, tons.....	21,524	21,017	15,887
Active during the year—			
Number.....	59	65	53
Daily capacity, tons.....	21,096	20,677	15,887
In course of construction at end of year—			
Number.....	1	1	1
Daily capacity, tons.....	350	325	75
Pig casting machines, number.....	21	20	( <sup>1</sup> )
Gas engines operated with blast-furnace gas:			
Number.....	16	10	( <sup>1</sup> )
Horsepower.....	43,500	20,140	.....

<sup>1</sup> Figures not available.

**Steel works and rolling mill.**—The following table shows, for 1914, 1909, and 1904, the quantity and cost of the principal materials used by steel works and

rolling mills, the quantity and value of the leading products, and the main features of equipment:

Table 30	1914	1909	1904
<b>MATERIALS.</b> (Tons, 2,240 lbs.)			
Total cost.....	\$139,676,491	\$139,243,155	\$78,209,770
Iron and steel: <sup>1</sup>			
For furnaces and hot-rolls—			
Pig iron and ferroalloys—			
Tons.....	4,388,023	4,209,149	2,393,614
Cost.....	\$62,109,373	\$64,441,978	\$33,040,901
Pig iron—			
Tons.....	4,341,857	4,172,114	( <sup>2</sup> )
Cost.....	\$59,180,555	\$62,747,851	-----
Ferroalloys—spiegeleisen, ferromanganese, ferrosil- icon, etc.—			
Tons.....	46,166	37,035	( <sup>2</sup> )
Cost.....	\$2,928,818	\$1,694,127	-----
Scrap—			
Tons.....	855,163	530,408	635,967
Cost.....	\$9,452,349	\$8,093,044	\$8,067,895
Scrap made and consumed in same works, tons.....	1,076,839	872,314	( <sup>2</sup> )
Ingot, blooms, billets, slabs, muck and scrap bar, rails for rerolling, and sheet and tin- plate bars—			
Tons.....	1,902,828	1,858,171	1,059,744
Cost.....	\$38,370,551	\$40,358,367	\$23,607,315
Rolled forms for further manu- facture—			
Skelp—			
Tons.....	26,936	57,144	10,192
Cost.....	\$888,978	\$1,730,190	\$315,343
Wire rods—			
Tons.....	76,045	97,539	92,246
Cost.....	\$1,843,093	\$2,708,015	\$2,563,171
Iron ore:			
Tons.....	147,464	75,857	48,239
Cost.....	\$455,440	\$384,303	\$211,533
Fuel and rent of power.....	\$9,840,609	\$7,672,641	\$4,990,891
All other materials.....	\$16,716,098	\$13,854,617	\$5,412,721
<b>PRODUCTS.</b> (Tons, 2,240 lbs.)			
Total value.....	\$205,023,391	\$197,780,043	\$111,996,673
Rolled, forged, and other classified iron and steel products:			
Tons.....	6,303,890	5,898,690	3,533,426
Value.....	\$174,638,133	\$172,105,247	\$101,233,039
Finished products and forgings—			
Tons.....	3,449,352	3,100,954	1,659,272
Value.....	\$113,348,425	\$106,819,258	\$57,500,778
Plates and sheets—			
Tons.....	988,997	755,010	490,131
Value.....	\$38,892,399	\$33,800,603	\$20,700,386
Black plates or sheets for tin- ning—			
Tons.....	176,835	111,156	-----
Value.....	\$7,424,689	\$5,868,639	-----
Skelp—			
Tons.....	955,597	739,761	\$314,447
Value.....	\$24,478,568	\$22,198,365	\$9,707,170
Merchant bars—			
Tons.....	299,957	-----	-----
Value.....	\$10,784,383	-----	-----
Spike and chain rods, bolt and nut rods, horseshoe bars, strips, etc.—			
Tons.....	64,838	704,168	-----
Value.....	\$2,218,108	\$21,168,583	-----
Bars for reinforced concrete—			
Tons.....	77,309	70,978	274,191
Value.....	\$2,233,658	\$2,063,084	\$8,672,928
Wire rods, hoops, bands, and cotton ties, rails, structural shapes and other finished rolled forms or forgings—			
Tons.....	885,819	719,881	610,503
Value.....	\$27,316,620	\$21,719,984	\$18,420,294
Partly finished rolled products—			
Blooms, billets, and slabs—			
Tons.....	1,708,862	1,975,730	-----
Value.....	\$33,187,270	\$42,301,868	-----
Sheet and tin-plate bars—			
Tons.....	1,033,972	679,982	1,803,873
Value.....	\$20,877,350	\$15,611,744	\$40,350,466
Muck and scrap bar—			
Tons.....	-----	15,875	32,464
Value.....	-----	\$415,651	\$1,008,781
Unrolled steel:			
Ingots—			
Tons.....	8,369	32,223	2,661
Value.....	\$146,679	\$613,540	\$64,836
Castings—			
Tons.....	103,335	93,926	35,156
Value.....	\$7,078,409	\$6,343,188	\$2,308,178

<sup>1</sup> Includes material purchased and the quantity and assigned value of that trans-  
ferred to the establishment reporting from other works of the same company.

<sup>2</sup> Figures not available.

<sup>3</sup> Includes hoops, bands, and cotton ties.

Table 30—Continued.

	1914	1909	1904
<b>PRODUCTS—continued.</b> (Tons, 2,240 lbs.)			
All other products, including value added to steel or iron rolling-mill prod- ucts by further manufacture.....	\$30,385,258	\$25,674,796	\$10,763,634
<b>Steel production, tons.</b>			
Total.....	5,449,981	4,705,337	2,529,997
Bessemer.....	2,860,129	3,327,351	2,049,153
Open-hearth.....	2,589,535	1,377,216	480,844
Basic.....	2,554,956	1,306,694	425,007
Acid.....	34,579	70,522	55,837
Crucible and electric.....	317	770	-----
<b>EQUIPMENT.<sup>1</sup></b>			
Steel plants: Daily capacity of steel furnaces and converters, tons of steel, double turn:			
Open-hearth furnaces.....	27,661	21,684	13,752
Number.....	111	66	42
Basic.....	103	58	33
Acid.....	8	8	9
Daily capacity, tons of steel, double turn.....	13,062	6,329	2,922
Converters—			
Number.....	24	17	12
Daily capacity, tons of steel, double turn.....	14,572	15,340	10,830
All other—			
Number.....	8	12	-----
Crucible.....	7	12	-----
Electric.....	1	-----	-----
Daily capacity, tons of steel, double turn.....	27	15	-----
Metal mixers—			
Number.....	15	13	( <sup>2</sup> )
Capacity, tons.....	4,300	3,350	-----

<sup>1</sup> Statistics are for the equipment of active establishments. The annual capac-  
ity of the steel furnaces of all plants, active and idle, on December 31, 1914 (Sta-  
tistical report of American Iron and Steel Institute), was as follows: Open-hearth  
furnaces, 3,982,250 tons; Bessemer, 4,572,600 tons; crucible, 5,150 tons; electric,  
9,000 tons; and miscellaneous, 2,500 tons; total, 8,571,500 gross tons.

<sup>2</sup> Figures not available.

In the preceding table manufactures from rolled stock made in the rolling mill, such as wire, wrought welded pipes and tubes, and horseshoes, are not shown, but the rolled stock used for such manufac-  
tures is included along with that made for sale, and the enhanced value secured through their manu-  
facture beyond the rolling-mill product stage has been included under the head of "All other products." The output of partly finished rolled products by some establishments results in a large amount of duplica-  
tion in the figures for cost of materials and value of products. Two plants of the same company fre-  
quently constitute different establishments, and nearly 30 per cent of the cost of materials is represented by ingots, blooms, billets, slabs, and bars that were products of establishments other than those that did the final rolling.

A comparison of the total steel production, 5,449,981 tons, with the capacity of the steel furnaces of all plants, active and idle, at the close of the year 1914, given as 8,571,500 tons for the year in the statistical report of the American Iron and Steel Institute, shows that the equipment was utilized to a little over 60 per cent of its capacity.

*Tin plate and terneplate.*—The special statistics for this industry for 1914 and 1909 are given in Table 31.

Ohio ranks third among the states in this industry, reporting 15.8 per cent of the total value of prod-  
ucts for the United States in 1914 and 16.4 per cent in 1909.



Table 31		1914	1909
<b>MATERIALS.</b>			
Total cost.....		\$9,442,743	\$7,155,144
Black plates or sheets:			
Pounds.....	349,217,545	213,764,915	
Cost.....	\$6,517,529	\$5,143,579	
Pig tin:			
Pounds.....	6,136,884	3,872,221	
Cost.....	\$2,365,900	\$1,142,704	
Pig lead:			
Pounds.....	469,630	249,000	
Cost.....	\$20,069	\$10,612	
Terne mixture, purchased:			
Pounds.....	812,471	3,943,767	
Cost.....	\$101,896	\$434,482	
All other materials.....	\$437,349	\$423,767	
<b>PRODUCTS.</b>			
Total value.....	\$10,826,098	\$7,889,367	
Tin plate and terneplate:			
Pounds.....	325,180,210	212,737,039	
Value.....	\$10,389,051	\$7,669,423	
All other products.....	\$437,047	\$219,944	

**Automobiles, including bodies and parts.**—Table 32 shows the number and value of the different classes of automobiles manufactured, as reported at the censuses of 1914, 1909, and 1904.

Table 32	1914		1909		1904	
	Num-ber.	Value.	Num-ber.	Value.	Num-ber.	Value.
Total value.....		\$85,710,585		\$38,838,754		\$6,358,164
Automobiles.....	67,483	69,465,370	14,299	23,550,112	2,808	5,197,360
Passenger vehicles.....	58,850	55,097,729	13,628	22,921,062	2,808	5,197,360
Runabouts and bug- gies.....	7,117	4,783,840				
Touring cars.....	49,421	44,800,434	11,539	18,356,985	2,808	5,197,360
Closed (limousines, cabs, etc.).....	2,010	4,251,172	1,185	2,775,891		
All other (omnibuses, ambulances, gov- ernment and muni- cipal, etc.).....	302	1,262,283	904	1,788,186		
Business vehicles (mer- chandise).....	8,633	14,367,641	671	629,050		
Delivery wagons.....	( <sup>3</sup> )	( <sup>3</sup> )	469	242,105		
Trucks and all other.....	( <sup>3</sup> )	( <sup>3</sup> )	202	386,945		
All other products, in- cluding repair work.....		16,245,215		15,288,642		1,160,804

<sup>1</sup> In addition, 102 automobiles, valued at \$159,850, were manufactured in 1914 by establishments engaged primarily in other industries.

<sup>2</sup> Includes "business vehicles," to avoid disclosure of individual operations.

<sup>3</sup> Separate figures can not be shown without disclosing individual operations.

The total value of the output of automobiles, including bodies and parts, by establishments engaged in the industry in Ohio in 1914 was an increase of \$46,871,831, or 120.7 per cent, over the amount reported for 1909, while for the preceding five-year period 1904-1909 the increase was \$32,480,590, or 510.9 per cent. The number of automobiles of all kinds turned out in 1914 was an increase of 53,184, or 371.9 per cent, over the number reported in 1909, while from 1904 to 1909 the increase was 11,491, or 409.2 per cent.

Of the different kinds of automobiles manufactured in the state in 1914, passenger vehicles comprised the largest proportion of the output, with 87.2 per cent of the number and 79.3 per cent of the value reported. More than four times as many passenger vehicles were manufactured in 1914 as in 1909, and 84 per cent were touring cars.

There was a marked gain in the manufacture of business vehicles, the number of which formed 12.8 per cent of the entire output of automobiles in the state in 1914 as compared with 4.7 per cent in 1909. Most of the business vehicles were trucks, but separate figures for delivery wagons and trucks could not be shown without disclosing individual operations.

The horsepower rating of the total number of machines reported in 1914 shows the greatest increase in those rated at 30 to 50 horsepower when compared with the corresponding figures for 1909. There were 3,235 machines reported as having less than 20 horsepower in 1914 as compared with 5,258 in 1909. Those having 20 to 30 horsepower numbered 9,940 in 1914 against 3,825 in 1909. The largest class, those rated at 30 to 50 horsepower, numbered 54,029 in 1914 against 4,742 in 1909, an increase of more than eleven-fold. Those rated at more than 50 horsepower decreased from 474 in 1909 to 279 in 1914.

"All other products," comprising chiefly automobile bodies and parts, amounted to \$16,245,215 in 1914. A number of these products, however, are used in the manufacture of the completed automobiles, and to that extent are responsible for a duplication in the cost of materials and value of products shown for the industry.

Ohio held second place in value of automobiles manufactured in 1909 and 1914. Of the total number of automobiles manufactured by establishments primarily engaged in the industry in the United States in 1914, establishments located in Ohio produced 11.9 per cent as compared with 11.3 per cent in 1909 and 12.9 per cent in 1904.

**Flour-mill and gristmill products.**—Table 23 gives the quantities and values of flour-mill and gristmill products for 1914, 1909, and 1904.

Table 33	1914	1909	1904
Products, total value.....	\$45,171,200	\$48,093,353	\$40,855,506
Wheat flour:			
Barrels.....	5,707,781	5,723,536	5,628,179
Value.....	\$27,852,222	\$30,508,109	\$27,856,603
Rye flour:			
Barrels.....	43,674	33,215	43,691
Value.....	\$220,344	\$146,786	\$181,105
Buckwheat flour:			
Pounds.....	5,848,216	7,436,813	3,590,618
Value.....	\$171,359	\$180,267	\$93,967
Barley meal:			
Pounds.....	72,360		
Value.....	\$1,180		
Corn meal and corn flour:			
Barrels.....	524,941	865,250	1,006,703
Value.....	\$1,696,817	\$2,528,843	\$2,432,026
Hominy and grits:			
Pounds.....	83,822,260	80,855,375	69,360,258
Value.....	\$1,380,905	\$1,247,605	\$699,171
Oatmeal:			
Pounds.....	296,000		
Value.....	\$4,500		
Bran and middlings:			
Tons.....	255,720	( <sup>1</sup> )	( <sup>1</sup> )
Value.....	\$5,886,947		
Feed and offal:			
Tons.....	249,551	502,301	470,004
Value.....	\$7,536,048	\$12,406,370	\$8,972,972
Breakfast foods:			
Pounds.....	3,460,011		
Value.....	\$66,369		
All other cereal products.....	\$16,622	\$931,283	
All other products.....	\$337,887	\$144,090	\$619,722

<sup>1</sup> Included in "feed and offal."

Ohio was fifth among the states in 1914, as in 1909, in the value of products for this industry, notwithstanding a decrease of \$2,922,153, or 6.1 per cent, during the five-year period. Wheat flour was the principal product and represented 61.7 per cent of the total value in 1914, 63.4 per cent in 1909, and 68.2 per cent in 1904. Of the 649 establishments reported for the industry at the census of 1914, 549 manufactured wheat flour to some extent, as compared with 593 in 1909. In 1914 the value of wheat flour, bran and middlings, and feed and offal combined formed 91.4 per cent of the total value of products, the corresponding proportion in 1909 being 89.2 per cent. Corn meal and corn flour constitute the next most important product, although in 1914 as compared with 1909 there was a decrease of 340,309, or 39.3 per cent, in the number of barrels produced, while the value decreased 32.9 per cent. The equipment reported for 1914 consisted of 3,222 stands of rolls, 315 runs of stone, and 529 attrition mills.

**Slaughtering and meat packing.**—Table 34 shows for the slaughtering and meat-packing industry for 1914, 1909, and 1904 the kind, number, and cost of the animals slaughtered; the cost of dressed meat purchased for curing and making lard compounds and substitutes; and the cost of all other materials, which includes curing materials, seasoning, cottonseed oil, ice, containers, mill supplies, fuel, rent of power, and freight; and the quantities and values of the various products manufactured, except canned goods, canned sausage, hoofs, horns, glue, goat and kid skins, oleo and other oils, and wool, which are included in "all other products," to avoid disclosure of individual operations. The figures do not include establishments engaged exclusively in the manufacture of sausage.

The total cost of materials shows an increase in 1914 as compared with 1909 of 33.6 per cent, which was approximately the same as the increase in the total value of products. With the exception of calves, for which there was a decrease in number of 8,865, or 5.9 per cent, the number and cost of each of the different kinds of animals slaughtered show increases for the five-year period. The cost of hogs slaughtered constituted the greatest proportion of the total cost of materials at each census, representing 56.3 per cent of the total in 1914 and 1909, and 59.8 per cent in 1904.

The total value of products for the industry increased at each successive census, although the absolute and relative increase was greater for the period 1904-1909 than for the later period, 1909 to 1914. The most important products were fresh and cured pork, their combined value in 1914 representing 45.1 per cent of the total value of products for the industry, as compared with 46.5 per cent in 1909. All the other products presented separately in the table, except cured beef, show increases in value for the five-year period 1909-1914.

<b>Table 34</b>	<b>1914</b>	<b>1909</b>	<b>1904</b>
<b>MATERIALS.</b>			
Total cost.....	\$58,296,970	\$43,639,913	\$25,022,324
<b>Animals slaughtered:</b>			
Beeves—			
Number.....	269,719	265,191	189,613
Cost.....	\$16,375,682	\$11,613,314	\$6,490,507
Calves—			
Number.....	141,358	150,223	86,906
Cost.....	\$1,931,710	\$1,599,585	\$665,385
Sheep and lambs—			
Number.....	300,337	229,985	148,418
Cost.....	\$1,418,726	\$872,989	\$502,029
Hogs—			
Number.....	1,911,608	1,725,285	1,447,778
Cost.....	\$32,802,989	\$24,547,970	\$14,954,587
Dressed meat purchased for curing...	<sup>1</sup> \$3,012,778	<sup>1</sup> \$2,415,702	<sup>1</sup> \$1,522,516
All other materials.....	\$2,755,085	\$2,590,353	\$887,300
<b>PRODUCTS.</b>			
Total value.....	\$64,960,396	\$49,795,368	\$28,729,044
<b>Fresh meat:</b>			
Beef—			
Pounds.....	118,627,111	119,597,666	89,925,370
Value.....	\$13,009,363	\$10,047,217	\$5,967,126
Veal—			
Pounds.....	11,157,758	12,921,896	6,680,682
Value.....	\$1,569,471	\$1,498,687	\$610,883
Mutton and lamb—			
Pounds.....	9,245,870	7,738,777	5,406,034
Value.....	\$1,169,054	\$763,364	\$472,931
Pork—			
Pounds.....	101,775,391	60,320,259	49,033,932
Value.....	\$12,669,369	\$6,950,354	\$4,514,599
Edible offal and all other fresh meat—			
Pounds.....	11,432,187	6,728,033	4,155,474
Value.....	\$837,898	\$493,467	\$241,956
<b>Cured meat:</b>			
Beef, pickled and other cured—			
Pounds.....	1,695,084	4,450,976	2,434,645
Value.....	\$245,076	\$328,334	\$175,972
Pork, pickled and other cured—			
Pounds.....	121,188,242	121,988,353	116,433,401
Value.....	\$16,632,373	\$10,202,666	\$10,182,724
Sausage—			
Pounds.....	31,047,288	24,240,181	17,402,744
Value.....	\$3,692,691	\$2,337,761	\$1,285,789
Meat puddings, scrapple, etc.—			
Pounds.....	3,592,848	( <sup>2</sup> )	( <sup>2</sup> )
Value.....	\$328,865	( <sup>2</sup> )	( <sup>2</sup> )
Lard—			
Pounds.....	67,135,365	58,518,712	49,180,666
Value.....	\$7,147,098	\$6,566,768	\$3,427,690
Lard compounds and substitutes:			
Pounds.....	1,459,793	( <sup>2</sup> )	( <sup>2</sup> )
Value.....	\$126,098	( <sup>2</sup> )	( <sup>2</sup> )
Tallow, oleo stock, and stearin:			
Pounds.....	24,845,291	11,088,893	( <sup>2</sup> )
Value.....	\$1,683,720	\$640,001	( <sup>2</sup> )
Soap stock:			
Pounds.....	4,821,543	( <sup>2</sup> )	( <sup>2</sup> )
Value.....	\$244,193	( <sup>2</sup> )	( <sup>2</sup> )
Sausage casings:			
Pounds.....	855,544	( <sup>2</sup> )	( <sup>2</sup> )
Value.....	\$90,136	( <sup>2</sup> )	( <sup>2</sup> )
Fertilizers and fertilizer materials:			
Tons.....	6,602	9,103	7,517
Value.....	\$170,422	\$166,354	\$104,092
<b>Hides and pelts:</b>			
Cattle—			
Number.....	269,719		
Pounds.....	16,146,170		
Value.....	\$2,391,107	410,573	254,572
Calf—			
Number.....	140,608	16,900,033	11,638,587
Pounds.....	1,680,454	\$1,970,069	\$1,037,295
Value.....	\$290,575		
Sheep—			
Number.....	300,259	232,775	148,118
Value.....	\$292,851	\$194,720	\$101,427
All other products.....	\$2,370,036	\$1,635,606	\$606,560

<sup>1</sup> Includes cost of "all other animals."

<sup>2</sup> Not reported separately.

**Printing and publishing.**—Table 35 gives the number of the different classes of newspapers and periodicals published in the state and their aggregate circulation per issue for 1914, 1909, and 1904.

In number of publications there was a net decrease of 8 during the period 1909 to 1914. The daily newspapers decreased by 3, the weeklies by 58, and the semiweeklies and triweeklies combined, 7. There was an increase of 3 Sunday newspapers, 31 monthly publications, and 20 quarterlies.

Table 35 PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1914	1909	1904	1914	1909	1904
Total.....	1,173	1,181	1,250	15,707,597	10,753,143	9,321,545
Daily.....	181	184	190	2,484,548	1,542,855	1,357,135
Sunday.....	28	25	23	830,219	645,869	544,416
Semiweekly and triweekly.....	53	60	53	185,140	131,806	113,749
Weekly.....	641	699	781	3,110,883	2,913,730	2,747,511
Monthly.....	183	152	143	5,501,906	2,685,470	2,006,287
Quarterly.....	57	37	40	2,874,657	2,288,134	2,160,200
All other classes.....	30	24	20	720,244	545,279	383,247

In circulation of all publications there was for the later five-year period an increase of 4,954,454, or 46.1 per cent. The circulation of the dailies increased 941,693, or 61 per cent; the Sundays, 184,350, or 28.5 per cent; the weeklies, 197,153, or 6.8 per cent; the monthlies, 2,816,436, or 104.9 per cent; the quarterlies, 586,523, or 25.7 per cent. Of the daily newspapers, 137, with a circulation of 1,488,549, were evening editions. The great increase in the circulation of the monthly publications was due to the growth of magazines classed as general literature.

Table 36 gives the number and the circulation per issue of the various classes of publications in English and in foreign languages reported in 1914 and 1909.

Table 36 PERIOD OF ISSUE.	Census year.	TOTAL.		IN ENGLISH.		IN FOREIGN LANGUAGES. <sup>1</sup>	
		Num-ber.	Aggregate circulation per issue.	Num-ber.	Aggregate circulation per issue.	Num-ber.	Aggregate circulation per issue.
Total.....	1914 1909	1,173 1,181	15,707,597 10,753,143	1,055 1,052	14,879,708 9,919,063	118 129	827,889 834,080
Daily.....	1914 1909	181 184	2,484,548 1,542,855	169 173	2,353,583 1,453,190	12 11	130,965 89,665
Sunday.....	1914 1909	28 25	830,219 645,869	23 18	742,519 588,729	5 7	87,700 57,140
Semiweekly and tri-weekly.....	1914 1909	53 60	185,140 131,806	45 52	164,144 111,438	8 8	20,996 20,368
Weekly.....	1914 1909	641 699	3,110,883 2,913,730	579 630	2,783,531 2,543,916	62 69	327,352 369,814
Monthly.....	1914 1909	183 152	5,501,906 2,685,470	167 133	5,391,458 2,550,482	16 19	110,448 134,988
Quarterly.....	1914 1909	57 37	2,874,657 2,288,134	47 29	2,738,119 2,151,180	10 8	136,538 136,954
All other classes.....	1914 1909	30 24	720,244 545,279	25 17	706,354 520,128	5 7	13,890 25,151

<sup>1</sup> Includes those printed in English and a foreign language.

Eighty-one of the publications were in the German language, 6 in English and German, and 1 in English, German, and French. The circulation of the purely German was 529,400 copies per issue, or 63.9 per cent of the total circulation of foreign publications. Of these German publications, 7 were daily and 3 were Sunday newspapers, 40 were weeklies, 2 were semi-weeklies, and 2 triweeklies, 2 semimonthlies, 15 monthlies, 1 bimonthly, and 9 quarterlies.

Of the foreign-language dailies other than German, 2 each were in Bohemian and Hungarian and 1 in Yiddish. There were also 2 Sunday papers—1 in Bohemian and 1 in Polish—and 22 weeklies—3 in

Bohemian, 3 in English and German, 4 in Hungarian, 4 in Italian, 5 in Polish, 2 in Slovak, and 1 in English, German, and French. Of the foreign semiweeklies other than German, 1 was in Croatian and Servian, 1 in Roumanian, and 1 in Slovenian; the only tri-weekly was in Roumanian. There was 1 monthly publication, 1 bimonthly, and 1 quarterly in English and German, and 1 semimonthly in Hungarian.

Brick, tile, pottery, and other clay products.—Table 37 presents statistics of the products of this industry, classified by kind, quantity, and value, for 1914, 1909, and 1904. The quantities and values for 1914 are taken from the reports of the United States Geological Survey and represent sales during the year.

Table 37	1914	1909	1904
Products, total value.....	\$38,667,374	\$30,531,002	\$25,686,870
Brick:			
Common—			
Thousands.....	436,117	420,999	459,283
Value.....	\$2,862,109	\$2,429,879	\$2,046,126
Vitrified, paving, etc.—			
Thousands.....	293,381	324,530	189,734
Value.....	\$3,682,230	\$3,113,128	\$1,915,139
Front—			
Thousands.....	188,074	130,684	82,552
Value.....	\$1,944,486	\$1,393,787	\$856,431
Fire—			
Thousands.....	102,735	103,148	87,626
Value.....	\$1,833,740	\$1,730,401	\$1,288,872
Fancy or ornamental.....	\$14,727	\$24,367	\$149,142
Sewer pipe.....	\$4,691,719	\$3,009,798	\$2,939,772
Fireproofing.....	\$2,200,544	\$804,637	\$577,014
Tile, not drain.....	\$2,331,079	\$1,912,343	\$971,785
Draintile.....	\$1,589,565	\$2,032,528	\$1,174,290
Stove lining.....	\$51,192	\$23,803	(?)
Pottery:			
Red earthenware.....	\$300,453	\$145,137	\$181,736
Stoneware and yellow and Rock-ingham ware.....	\$1,592,102	\$1,806,798	\$1,146,718
White ware, including C. C. ware, white granite ware, semiporcelain ware, and semivitreous porcelain ware.....	\$10,227,806	\$8,884,189	\$8,446,868
Sanitary ware, including solid porcelain bath tubs, laundry tubs, etc.....	\$619,931	\$310,254	\$197,225
Porcelain electrical supplies.....	\$1,472,359	\$1,146,604	\$584,243
All other products.....	\$3,253,332	\$1,763,259	\$2,611,509

<sup>1</sup> Includes enameled brick, \$3,000, and sand-lime brick, \$3,750.

<sup>2</sup> Includes refractory block or tile, boiler and locomotive tile and tank blocks, and other refractory products (9-inch equivalent).

<sup>3</sup> Not reported separately.

Ohio was first among the states in the manufacture of clay products at each census. The total value of products increased 26.6 per cent from 1909 to 1914, as compared with an increase of 18.9 per cent for the earlier five-year period, while the increase for the decade was 50.5 per cent.

White ware, including C. C. (cream-colored) ware, semiporcelain ware, and semivitreous ware, was the leading product at each census and formed 26.5 per cent of the total value of products of the combined industries in 1914, 29.1 per cent in 1909, and 32.9 per cent in 1904, the increase in value being 15.1 per cent for 1909 to 1914, as compared with an increase of 5.2 per cent for the earlier five-year period. The value of stoneware, while showing an increase of 38.8 per cent for the decade, decreased 11.9 per cent from 1909 to 1914. From 1909 to 1914 common brick increased 3.6 per cent in quantity and 17.8 per cent in value, while for vitrified paving, etc., brick there

was a decrease of 9.6 per cent in quantity, accompanied by an increase of 18.3 per cent in value. The greatest absolute increase, \$1,681,921, or 55.9 per cent, is shown for sewer pipe, while the greatest relative increase, \$1,395,907, or 173.5 per cent, appears for fireproofing.

**Paper and wood pulp.**—Table 38 gives the quantities and cost of materials used, the quantities and values of the principal products, and detailed information regarding equipment for the years 1914, 1909, and 1904.

Table 38	1914	1909	1904
<b>MATERIALS.</b>			
Total cost.....	\$16,109,274	\$10,898,285	\$6,153,761
Pulp wood.....	\$187,090	\$443,296	\$189,724
Wood pulp, purchased:			
Tons.....	139,451	80,201	40,040
Cost.....	\$6,392,759	\$3,743,972	\$1,585,559
Ground—			
Tons.....	19,504	4,778	2,782
Cost.....	\$200,254	\$110,372	\$57,829
Sulphite fiber—			
Tons.....	86,559	47,167	27,344
Cost.....	\$4,335,536	\$2,292,178	\$1,109,884
Soda fiber—			
Tons.....	33,855	27,326	9,631
Cost.....	\$1,499,053	\$1,303,292	\$400,933
Other chemical fiber—			
Tons.....	9,533	930	283
Cost.....	\$357,916	\$38,130	\$16,913
Rags, including cotton and flax waste and sweepings:			
Tons.....	37,303	33,744	22,877
Cost.....	\$978,771	\$893,509	\$556,545
Old and waste paper:			
Tons.....	200,996	93,239	55,475
Cost.....	\$2,307,643	\$1,286,182	\$606,328
Manila stock, including jute bagging, rope, waste, threads, etc.:			
Tons.....	39,230	25,949	12,268
Cost.....	\$850,851	\$856,420	\$354,112
Straw:			
Tons.....	97,007	70,322	71,936
Cost.....	\$473,599	\$335,951	\$327,355
Fuel and rent of power.....	\$1,280,584	\$1,049,097	\$709,028
All other materials.....	\$3,637,977	\$2,289,858	\$1,825,110
<b>PRODUCTS.</b>			
Total value.....	\$23,284,192	\$16,965,260	\$10,961,527
Book, cover, plate, and coated paper:			
Tons.....	89,006	75,607	45,604
Value.....	\$7,712,459	\$6,752,103	\$4,019,447
Writing and other fine paper:			
Tons.....	24,155	19,579	8,722
Value.....	\$2,597,349	\$2,306,016	\$1,057,920
Wrapping paper:			
Tons.....	34,837	42,548	44,037
Value.....	\$1,954,766	\$2,389,232	\$1,786,172
Manila (rope, jute, etc.)—			
Tons.....	8,800	12,393	10,056
Value.....	\$816,247	\$1,264,635	\$777,055
Heavy (mill wrappers, etc.)—			
Tons.....	5,179	5,725	6,314
Value.....	\$158,715	\$147,869	\$164,873
Straw—			
Tons.....	6,395	8,682	9,078
Value.....	\$172,156	\$217,050	\$207,610
All other—			
Tons.....	14,463	15,748	18,589
Value.....	\$807,648	\$759,678	\$636,634
Boards:			
Tons.....	171,726	106,016	60,269
Value.....	\$5,537,694	\$3,159,290	\$1,716,740
Strawboard—			
Tons.....	39,496	37,710	33,953
Value.....	\$1,075,535	\$853,100	\$866,879
All other boards—			
Tons.....	132,230	68,306	26,316
Value.....	\$4,462,159	\$2,306,190	\$849,861
Building, roofing, and sheathing paper:			
Tons.....	28,172	18,974	15,400
Value.....	\$1,086,265	\$598,680	\$499,692
All other products.....	\$4,395,659	\$1,759,939	\$1,881,556
Wood pulp produced (including that used in mills where manufactured), tons.....	14,399	25,935	20,274

<sup>1</sup> Includes 121 tons of mechanical screenings, costing \$3,807.

Table 38—Continued.	1914	1909	1904
<b>EQUIPMENT.</b>			
Paper machines:			
Total number.....	99	118	96
Capacity, yearly, tons.....	478,244	414,650	281,075
Fourdrinier—			
Number.....	44	63	37
Capacity per 24 hours, tons..	659	575	299
Cylinder—			
Number.....	55	55	59
Capacity per 24 hours, tons..	965	717	554
Pulp equipment:			
Grinders, number.....	4	5	5
Digesters, total number.....	7	11	8
Sulphite fiber, number.....	3	8	8
Soda fiber, number.....	4	3	.....
Capacity, yearly, tons of pulp, total.....	20,032	54,400	34,150
Ground, tons.....	6,532	7,800	5,321
Sulphite, tons.....	9,000	43,600	28,829
Soda, tons.....	4,500	3,000	.....

In the value of paper and wood pulp produced Ohio ranked sixth among the states in 1914, 1909, and 1904. The industry as a whole has increased rapidly since 1904, the total cost of materials making a gain of 161.8 per cent during the decade, and the total value of products increasing 112.4 per cent. The wood pulp purchased in 1914 formed 39.7 per cent of the total cost of materials. Sulphite fiber was the principal kind of pulp purchased at each census.

The use of waste paper as a paper stock increased remarkably during the decade, 200,996 tons being reported in 1914 as compared with only 55,475 tons in 1904, a gain of 262.3 per cent.

Book paper was the principal product of the paper mills of the state at each census, forming 33.1 per cent of the total value of products in 1914, 39.8 per cent in 1909, and 36.7 per cent in 1904. Of the specified kinds of paper produced, boards made the greatest per cent of increase in value during the decade, and writing and other fine paper ranked second. Wrapping paper decreased by nearly one-fourth in quantity during the period 1904–1914, but increased 9.4 per cent in value. The \$4,395,659 shown for "all other products" in 1914 includes newspapers, cardboard, bristol board, card middles, tickets, etc., tag stock, tissue paper, blotting paper, all other paper, and wood pulp, to the amount of \$2,942,636, and other products to the amount of \$1,453,023. The latter item includes principally paper bags and boxes.

The total quantity of wood pulp manufactured in the state has decreased steadily from census to census, the output in 1914 being only about one-half of the 1904 production. Practically the entire production in 1914 was used by the mills in which it was manufactured. Sulphite fiber was the principal kind of pulp manufactured at each census.

The total capacity of the paper machines in use in the state increased 70.1 per cent during the decade, but the capacity of the pulp equipment in tons of pulp decreased 41.3 per cent.

**Paint and varnish.**—Table 39 shows the kind, quantity, and value of the paint and varnish products of the state reported at the censuses of 1914, 1909, and 1904.

Table 39	1914 <sup>1</sup>	1909	1904
Products, total value.....	\$19,326,576	\$13,617,189	\$8,530,142
Pigments.....	\$717,352	\$949,613	\$781,117
Paints.....	\$11,401,735	\$7,674,867	\$4,389,985
In paste form, ground in oil—			
White lead—			
Pounds.....	28,941,498	24,057,529	19,903,727
Value.....	\$1,905,492	\$1,532,797	\$957,134
All other—			
Pounds.....	13,219,598	12,237,952	10,027,720
Value.....	\$1,085,100	\$807,156	\$701,088
In oil, ready mixed for use—			
Gallons.....	8,187,973	6,769,267	3,081,836
Value.....	\$8,411,143	\$5,334,914	\$2,731,763
Varnishes and japans.....	\$5,255,127	\$3,721,889	\$2,424,730
Oleoresinous varnishes—			
Gallons.....	3,268,124	3,790,073	1,736,439
Value.....	\$2,887,622	\$2,413,323	\$1,181,203
Spirit varnishes—			
Gallons.....	96,309	77,786	80,675
Value.....	\$83,236	\$106,848	\$107,147
Damar and similar turpentine and benzine varnishes—			
Gallons.....	150,659	309,080	624,295
Value.....	\$171,309	\$259,204	\$582,284
Drying japans and dryers—			
Gallons.....	1,227,184		
Value.....	\$556,181	1,715,173	
Baking japans and lacquers—			
Gallons.....	644,962	\$672,443	\$470,771
Value.....	\$340,961		
All other.....	\$1,215,818	\$270,071	\$83,325
Fillers:			
Liquid—			
Gallons.....	281,063	292,867	146,469
Value.....	\$163,538	\$155,869	\$89,213
Dry or in paste—			
Pounds.....	2,970,795	4,623,364	8,779,800
Value.....	\$175,981	\$159,570	\$246,412
Putty—			
Pounds.....	1,875,714		
Value.....	\$40,393		
Water paints and kalsomine, dry or in paste—			
Pounds.....	1,500,616	\$955,381	\$598,685
Value.....	\$45,569		
All other products.....	\$1,526,881		

<sup>1</sup> In addition, paints and varnishes to the value of \$149,005 were made in establishments not engaged primarily in the manufacture of paints or varnishes.

The products in 1914 exceeded in value those for 1909 by \$5,709,387, or 41.9 per cent, the increase in value of paints, not including pigments, being 48.6 per cent and in varnishes and japans 41.2 per cent. In 1914 paints constituted 59 per cent of all products in value, and varnishes and japans 27.2 per cent. In 1909 the corresponding ratios were 56.4 per cent and 27.3 per cent and in 1904, 51.5 per cent and 28.4 per cent, respectively.

Paints in oil, ready mixed for use, are the most important class of products. In 1914 the value of the same was \$8,411,143, which was 43.5 per cent of the total value of products, and exceeded the product of 1909 by over \$3,000,000. Oleoresinous varnishes ranked second in 1914 among the products, with a value of \$2,887,622, but show a decrease since 1909 in quantity, with an increase in value.

**Butter, cheese, and condensed milk.**—Ohio is one of the leading dairy products states, ranking eighth in value of products in 1914 and ninth in 1909. Table 40 gives the quantity and value of the principal products for 1914, 1909, and 1904.

The butter, cheese, and condensed-milk industry in 1914 was represented by 143 butter, 129 cheese, and 14

condensed-milk factories. During the decade 1904-1914 the total value of products increased \$14,732,755, or 320.8 per cent. The increase from 1904 to 1909 was 111 per cent and from 1909 to 1914, 99.4 per cent. During the later five-year period the total quantity of butter produced increased 146.2 per cent and its value 151.1 per cent, the value in 1914 forming 64.8 per cent of the total value of products of the industry, as compared with 51.4 per cent in 1909.

Table 40	1914	1909	1904
Products, total value.....	\$19,325,977	\$9,689,670	\$4,593,222
Butter:			
Pounds.....	43,064,562	17,491,251	11,591,981
Value.....	\$12,520,138	\$4,985,273	\$2,534,531
Packed solid—			
Pounds.....	23,616,649	11,265,341	7,233,289
Value.....	\$6,719,266	\$3,162,518	\$1,527,514
Prints or rolls—			
Pounds.....	19,447,913	6,225,910	4,358,692
Value.....	\$5,800,872	\$1,822,755	\$1,007,067
Cream sold:			
Pounds.....	13,012,456	4,735,900	1,843,868
Value.....	\$1,310,242	\$500,528	\$110,263
Cheese:			
Pounds.....	8,717,996	11,860,601	17,351,773
Value.....	\$1,051,795	\$1,533,517	\$1,655,963
Full cream—			
Pounds.....	6,104,862	9,768,970	13,219,415
Value.....	\$881,369	\$1,305,461	\$1,231,779
Part cream—			
Pounds.....	1,797,534	1,550,560	.....
Value.....	\$78,564	\$197,056	.....
Other kinds—			
Pounds.....	815,600	541,071	4,132,358
Value.....	\$91,862	\$30,400	\$424,184
Condensed milk:			
Pounds.....	50,509,848	37,655,347	1,947,218
Value.....	\$3,066,631	\$2,409,959	\$139,063
Sweetened—			
Pounds.....	3,436,823	4,232,160	266,250
Value.....	\$199,962	\$256,529	\$15,975
Unsweetened and evaporated—			
Pounds.....	47,073,025	33,423,187	1,680,968
Value.....	\$2,866,669	\$2,153,430	\$123,088
All other butter, cheese, and condensed-milk factory products.....	\$972,497	\$161,537	\$127,212
All other products.....	\$404,674	\$98,856	\$20,150

Cheese decreased in quantity and in value during the decade and during each five-year period. From 1904 to 1909 the quantity decreased 31.6 per cent and the value 7.4 per cent, while from 1909 to 1914 the decrease in these items was 26.5 per cent and 31.4 per cent, respectively.

The output of condensed milk increased from less than 2,000,000 pounds in 1904 to over 37,000,000 pounds in 1909, and to more than 50,000,000 pounds in 1914. The remarkable growth of this branch of the industry was due almost entirely to the increased production of unsweetened condensed milk, the output of which in 1914 formed 93.2 per cent of the total quantity of condensed milk reported and its value represented 93.5 per cent of the total value; corresponding proportions for 1909 are 88.8 per cent and 89.3 per cent, respectively. From 1909 to 1914 sweetened condensed milk decreased 795,337 pounds, or 18.8 per cent, in quantity and \$56,567, or 22.2 per cent, in value.

**Glass.**—Table 41 shows the value of the different classes of glass products and the kind and quantity of the principal varieties of pressed and blown glass and of bottles and jars, for 1914, 1909, and 1904.

In 1914 Ohio ranked first among the states in the production of beer, soda, and mineral water bottles;

second in tableware, jellies, tumblers and goblets, lamps, and liquors and flasks; and third in window glass, blown tumblers, stem ware and bar goods, and produced more than one-third of the glass tableware and more than one-fourth of the lamps, gas goods, and beer, soda, and mineral water bottles manufactured in the United States.

Table 41	1914	1909	1904
Products, total value.....	\$19,191,342	\$14,358,274	\$9,026,208
Building glass.....	3,805,669	2,744,513	1,625,126
Pressed and blown glass.....	6,490,498	6,160,707	3,954,660
Bottles and jars.....	7,422,402	4,717,658	2,961,727
All other products.....	1,472,773	735,396	484,695
<i>Kind and quality of pressed and blown glass and bottles and jars.</i>			
Pressed and blown glass:			
Tableware, 100 pieces.....	525,573	248,815	161,900
Jellies, tumblers and goblets, dozens.....	3,050,566	4,133,100	2,088,925
Lamps, dozens.....	182,449	50,147	25,744
Chimneys, dozens.....	1,102,388	1,215,815	1,090,814
Lantern globes, dozens.....	318,886	213,586	255,805
Shades, globes, and other gas goods, dozens.....	625,019	641,896	162,946
Blown tumblers, stem ware, and bar goods, dozens.....	1,739,548	2,255,805	1,835,850
Cut ware, dozens.....	15,333	6,000	5,850
Bottles and jars:			
Beer, soda, and mineral, gross.....	1,220,253	585,924	433,546
Liquors and flasks, gross.....	545,541	222,764	268,782
Fruit jars, gross.....	73,645	21,026	( <sup>1</sup> )
Packers' and preservers', gross.....	299,673	138,269	10,155

<sup>1</sup> Not shown separately.

Pressed and blown glass was the most important product of the glass industry in Ohio in 1904 and 1909, and while it shows an increase in 1914 over that reported in 1909, and represents 33.8 per cent of the total value of products, bottles and jars displaced it for first place in 1914, with 38.7 per cent of the total.

To avoid disclosures of individual operations the quantity of a number of items have not been included in the table. The most important of these are window, obscured and plate glass, globes and other electrical goods, opal and decorated ware, bottles and jars for prescriptions, vials and druggists' ware, milk jars, and patent and proprietary bottles.

The number of furnaces, including both active and idle, was 139 in 1914, as compared with 138 in 1909 and 93 in 1904. Sixty-five of the total number in 1914 were pot furnaces, with a capacity of 860 pots. The corresponding figures for 1909 were 68 pot furnaces, with 736 pots, and in 1904, 43 pot furnaces, with 620 pots. Forty-one tank furnaces, with 615 rings, were reported in 1914; 57 in 1909, with 532 rings; and 36 in 1904, with 303 rings. Seven intermittent or day-tank furnaces were reported in 1914, with a capacity of 26 tons, as compared with 13 in 1909, with a capacity of 30 tons, and 14 in 1904, with a capacity of 42 tons. Twenty-six tanks, equipped with 52 automatic machines, were reported separately in 1914, corresponding figures for which were included with tank furnaces in 1909.

Gas is the principal fuel used in the glass industry in Ohio, over seven billion cubic feet being used in 1914.

**Agricultural implements.**—Table 42 gives the value of the principal classes of agricultural implements manufactured in the state for 1914, 1909, and 1904.

Table 42	1914	1909	1904
Products, total value.....	\$17,484,615	\$14,440,461	\$12,891,197
Plows and cultivators.....	4,627,191	3,062,194	3,031,384
Harvesting implements.....	2,573,726	2,675,727	3,193,853
Seed separators.....	1,364,209	858,106	501,482
Planters and seeders, and all other agricultural implements, including parts.....	6,156,170	7,536,850	5,641,056
All other products.....	2,379,464	307,584	523,422
Amount received for repair work.....	383,855		

Ohio ranked third among the states in the value of its output of agricultural implements at each of the last three censuses. The total value of products increased 35.6 per cent during the decade and 21.1 per cent for the five-year period 1909–1914. Plows and cultivators were the principal class of agricultural implements manufactured in 1914 and 1909, representing 26.5 per cent of the total value of products at the 1914 census and 21.2 per cent in 1909. Harvesting implements was the principal class in 1904. Planters and seeders could not be shown separately without disclosing the operations of individual establishments. The item "All other products" in 1914 includes engines to the value of \$1,697,777, and other products, such as wagons, windmills, castings, etc., to the value of \$681,687.

**Carriages and wagons and materials.**—Table 43 shows the number and value of the different kinds of carriages and wagons manufactured in 1914, 1909, and 1904.

Table 43	1914	1909	1904
Products, total value.....	\$16,192,449	\$21,949,459	\$24,002,500
Carriages (family and pleasure):			
Number.....	71,972	135,877	199,428
Value.....	\$4,611,603	\$8,126,285	\$11,373,316
Wagons (business, farm, etc.):			
Number.....	25,417	28,882	40,905
Value.....	\$2,384,122	\$2,733,606	\$2,703,566
Public conveyances:			
Number.....	63	657	217
Value.....	\$29,706	\$206,458	\$107,141
Sleighs and sleds:			
Number.....	3,907	7,589	8,479
Value.....	\$30,711	\$78,542	\$52,166
All other products, including parts and amount received for repair work.....	\$9,136,307	\$10,804,568	\$9,766,281

Ohio ranked first among the states in the manufacture of carriages and wagons at the censuses of 1909 and 1904, but dropped to second place in 1914, being displaced by Indiana. There has been a steady decline in the total value of products for the industry at each successive census, the decrease from 1904 to 1909 being \$2,053,041, or 8.6 per cent, and from 1909 to 1914, \$5,757,010, or 26.2 per cent. Each class of vehicles shown in the table decreased both in number and value from 1909 to 1914. The greatest absolute decrease is shown for family and pleasure carriages, their number decreasing 63,905, or 47 per cent, and their value, \$3,514,682, or 43.3 per cent, while the greatest relative decrease is shown for the number and value of public conveyances, 90.4 per cent and 85.6 per cent, respectively. The decline is due largely to



the rapid development of the automobile industry in recent years, many of the factories formerly manufacturing carriages and wagons now being engaged in the manufacture of automobiles.

**Leather, tanned, curried, and finished.**—Table 44 gives, for 1914, 1909, and 1904, the quantities and values of the principal products reported for this industry.

Table 44	1914	1909	1904
Products, total value.....	\$11,627,916	\$10,127,836	\$6,512,754
Harness leather:			
Sides.....	335,127	363,981	309,434
Value.....	\$2,802,957	\$2,540,892	\$1,880,772
Upholstery leather (automobile, furniture, and carriage).....	3,404,590	3,734,827	1,798,850
All other leather.....	4,924,836	3,586,140	1,787,699
All other products.....	486,763	265,277	1,065,397
Work on materials for others.....	8,770	700	36

Ohio was eighth in rank among the states in the manufacture of leather in 1914, having advanced from tenth place in 1909. The total value of products for the industry increased 55.5 per cent from 1904 to 1909 and 14.8 per cent from 1909 to 1914. Upholstery leather (automobile, furniture, and carriage leather) was the product of chief value both in 1914 and 1909, although there was a decrease in value of \$330,237, or 8.8 per cent, for the five-year period. During the same period the value of harness leather increased 10.3 per cent, but there was a decrease of 28,854, or 7.9 per cent, in the number of sides reported. The manufacture of upper and sole leather was also important, but in order to avoid disclosing the operations of individual establishments the statistics for this branch of the industry have been included in "all other leather." Of the total value of leather made in Ohio at each of the censuses shown, Cincinnati contributed 52.3 per cent in 1904, 50 per cent in 1909, and 46.7 per cent in 1914.

The number of cattle hides treated in 1914 (460,521) represents a decrease of 53,705, or 10.4 per cent, as compared with the number reported in 1909, but their cost increased \$350,522, or 6.8 per cent.

**Chemicals.**—Table 45 presents statistics for the chemical industry in Ohio for 1914 and 1909.

Table 45	1914	1909
Products, total value.....	\$12,490,369	\$8,361,985
The chemical industry.....	\$11,388,140	\$7,742,045
Sulphuric, nitric, and mixed acids industry, and subsidiary chemical products from other industries.....	\$1,102,229	\$619,940
Acids.....	\$2,435,302	\$1,664,157
Sodas and sodium compounds.....	\$4,530,911	\$2,285,769
Compressed or liquefied gases.....	\$591,248	\$245,541
Glycerin.....		
Pounds.....	6,437,784	6,976,859
Value.....	\$1,246,795	\$1,140,639
Other chemicals.....	\$2,810,810	\$2,532,633
All other products.....	\$875,303	\$493,256

The classified chemical industry includes establishments engaged primarily in the manufacture of acids, with the exception of sulphuric, nitric, and mixed acids, for which there is a separate classification, sodas, potashes, alums, coal-tar products, cyanides,

bleaching materials, compressed or liquefied gases, alkaloids, salts of various metals, chloroform, ether, glycerin, etc., and elementary and compound substances produced by the aid of electricity. Of these groups, sodas constituted the most important for Ohio. There is a considerable production of chemicals by establishments classified under other heads, and in the presentation of statistics for products in detail these have been included, but their value as a total is shown separately from that of the classified industry.

In the production of chemicals Ohio ranked fifth among the states at the censuses of 1914 and 1909, the value of its output constituting 7.2 per cent of the total for the United States in 1914, 6.6 per cent in 1909, 6.1 per cent in 1904, and 7.4 per cent in 1899. The total value of products of the classified chemical industry in Ohio in 1914 shows an increase of \$3,646,095, or 47.1 per cent, over that of 1909.

**Petroleum, refining.**—Table 46 gives the statistics of materials used, the quantities and values of the principal products, and detailed information regarding equipment, for 1914, 1909, and 1904.

Table 46	1914	1909	1904
MATERIALS.			
Total cost.....	\$9,924,445	\$8,144,583	\$7,662,397
Crude petroleum: <sup>1</sup>			
Barrels (42 gallons).....	5,026,251	4,833,875	4,195,871
Mid-Continent.....	2,676,019		
Lima-Indiana.....	1,350,496	2,410,950	( <sup>2</sup> )
Illinois.....	856,453	2,167,352	
Pennsylvania grade.....	143,283	255,373	
Cost.....	\$7,961,948	\$4,987,558	\$5,143,137
Sulphuric acid, sulphur, and caustic soda.....	\$182,309	\$250,480	( <sup>2</sup> )
Containers and materials therefor:			
Wooden.....	\$301,123	\$563,079	\$936,659
Metal.....	\$115,163	\$89,408	
All other materials <sup>3</sup> .....	\$1,363,902	\$2,254,058	\$1,582,601
PRODUCTS.			
Total value.....	\$11,169,189	\$10,753,738	\$10,948,864
Naphthas and lighter products:			
Gasoline (from crude petroleum)--- Barrels (50 gallons).....	4,821,524		467,594
Value.....	\$3,568,834	539,828	\$1,676,529
All other--- Barrels.....	66,144	\$2,224,283	
Value.....	\$167,483		
Illuminating oils:			
Barrels.....	1,013,058	1,204,186	
Value.....	\$2,072,015	\$2,618,762	\$1,961,105
Fuel oils:			
Barrels.....	1,298,016	1,257,950	\$5,188,808
Value.....	\$1,844,644	\$1,302,720	
Lubricating oils:			
Barrels.....	420,843	543,526	336,116
Value.....	\$1,900,185	\$2,062,387	\$1,540,896
Residuum or tar:			
Barrels.....	132,180	101,105	111,339
Value.....	\$322,272	\$193,403	\$210,911
Greases:			
Barrels.....	16,331	18,076	19,659
Value.....	\$185,951	\$207,225	\$158,885
Paraffin wax:			
Barrels.....	56,395	54,536	47,533
Value.....	\$410,929	\$470,760	\$549,515
All other products.....	\$696,876	\$1,674,198	\$1,023,320
EQUIPMENT.			
Still, number.....	174	198	217
Steam--- Number.....	23	38	33
Capacity, barrels (42 gallons).....	21,951	26,539	( <sup>2</sup> )
Fire--- Number.....	151	160	184
Capacity.....	105,963	79,292	( <sup>2</sup> )

<sup>1</sup> Marketed production of crude petroleum produced in the state: 1914, 8,536,352 barrels, 1909, 10,632,793 barrels; 1904, 18,876,631 barrels; 1899, 21,142,108 barrels.

<sup>2</sup> Figures not available.

<sup>3</sup> Includes some partly refined oils and waxes.

<sup>4</sup> In addition, there were produced at the wells in 1914, 48,803 barrels (50 gallons) of casing-head gasoline, valued at \$184,097.

Table 46—Continued.	1914	1909	1904
EQUIPMENT—continued.			
Agitators, number.....	53	44	52
Storage tanks for:			
Crude petroleum—			
Number.....	20	61	20
Capacity (gallons).....	14,126,000	21,521,000	8,964,000
Refined petroleum products—			
Number.....	321		
Capacity.....	26,905,000		
Fuel oil—			
Number.....	80	614	499
Capacity.....	26,771,000	78,612,000	84,889,000
Other storage tanks—			
Number.....	531		
Capacity.....	49,754,000		

In 1914 Ohio ranked tenth among the states in value of output of this industry, while in 1909 it ranked seventh. The total production of refined oils in 1914 was 3,619,585 barrels, of which fuel oils constituted 35.9 per cent; illuminating oils, 28 per cent; gasoline and naphthas, 24.5 per cent; and lubricating oils, 11.6 per cent. In 1909 the production of refined oils was 3,545,490 barrels, of which fuel oils formed 35.5 per cent; illuminating oils, 34 per cent; gasoline and naphthas, 15.2 per cent; and lubricating oils, 15.3 per cent. Of the crude petroleum used in 1914, a little more than one-half (53.2 per cent) was reported as from the Mid-Continent field; 26.9 per cent from the Lima-Indiana field; 17 per cent, Illinois; and 2.9 per cent of Pennsylvania grade. In 1909 one-half was Lima-Indiana oil, and the balance Illinois and Pennsylvania grade.

**Hosiery and knit goods.**—Table 47 shows for this industry, for 1914, 1909, and 1904, the quantities and cost of materials used and the quantities and values of the products.

The principal material used in the industry was cotton yarn purchased, its cost both in 1914 and 1909 representing about one-third of the total cost of all materials. In 1914, as compared with 1909, there was an increase of 46.3 per cent in the quantity used and 42.5 per cent in its cost. In 1914 cotton yarn formed 64.3 per cent of the total quantity and 44.1 per cent of the cost of all yarns purchased, the corresponding proportions for 1909 being 60.2 per cent and 38.0 per cent, respectively. In 1904 worsted yarn was the principal item of cost.

The total value of products of the industry increased 116.5 per cent for the decade, although the relative increase was greater for the earlier five-year period, 1904–1909, than for the more recent period 1909–1914, being 61 per cent and 34.5 per cent, respectively. The principal products in 1914 were combination suits, their value representing 37 per cent of the total value of all products, as compared with 32.3 per cent in 1909; the increase in number for the five-year period was 51.9 per cent, while their value increased 54.4 per cent. Cotton combination suits constituted 75.4 per cent of the total number in 1914 and 67.6 per cent of their total value, the corresponding proportions for 1909 being 68.4 per cent and 50.5 per cent, respectively. Substantial gains were made both in number

and value of hose and half hose during the decade, and in value during each five-year period. In 1914 the value of merino hose and half hose, although representing a decrease of 19.3 per cent as compared with 1909, formed 42.1 per cent of the total value of all hose and half hose, and in 1909, 76 per cent. The most remarkable increase from 1909 to 1914 is shown for the number and value of "all other" hose and half hose, from 3,725 dozen pairs, valued at \$8,725, in 1909, to 233,311 dozen pairs, valued at \$376,618, in 1914. Other important products for which increases are shown both in number and value for the later five-year period are hoods, scarfs, etc., and cardigan jackets, sweaters, etc.

Table 47	1914	1909	1904 <sup>1</sup>
MATERIALS.			
Total cost.....	\$5,032,525	\$3,851,419	\$2,177,368
Yarns, purchased:			
Cotton—			
Pounds.....	6,155,521	4,207,238	1,049,479
Cost.....	\$1,765,372	\$1,238,527	\$444,930
Woolen—			
Pounds.....	776,308	773,371	327,684
Cost.....	\$540,454	\$439,977	\$215,232
Worsted—			
Pounds.....	1,449,655	1,095,829	784,770
Cost.....	\$1,040,979	\$1,003,980	\$760,490
Merino—			
Pounds.....	1,107,919	843,181	564,372
Cost.....	\$493,278	\$398,934	\$195,266
All other—			
Pounds.....	78,707	66,081	14,262
Cost.....	\$159,906	\$177,528	\$32,941
Chemicals.....	\$37,534	\$22,591	\$21,730
Fuel and rent of power.....	\$74,288	\$37,563	\$25,461
All other materials.....	\$920,714	\$532,319	\$481,318
PRODUCTS.			
Total value.....	\$8,654,103	\$6,433,431	\$3,997,047
Hose and half hose:			
Cotton—			
Dozen pairs.....	107,411	72,602	74,840
Value.....	\$184,169	\$150,464	\$131,142
Merino or mixed—			
Dozen pairs.....	253,477	323,948	239,162
Value.....	\$407,241	\$504,939	\$321,864
All other—			
Dozen pairs.....	233,311	3,725	97,815
Value.....	\$376,618	\$8,725	\$156,862
Shirts and drawers:			
Cotton—			
Dozens.....	48,410	87,151	82,264
Value.....	\$174,640	\$166,667	\$228,170
All other—			
Dozens.....	21,766	39,154	37,190
Value.....	\$147,300	\$234,037	\$247,771
Combination suits:			
Cotton—			
Dozens.....	219,704	131,186	55,823
Value.....	\$2,165,308	\$1,047,775	\$395,058
Merino—			
Dozens.....	62,986	58,063	15,643
Value.....	\$863,951	\$961,771	\$212,879
All other—			
Dozens.....	8,801	2,683	4,623
Value.....	\$176,070	\$66,938	\$111,326
Gloves and mittens:			
Dozen pairs.....	253,137	319,522	231,990
Value.....	\$248,048	\$289,848	\$360,111
Hoods, scarfs, etc.:			
Dozens.....	537,175	272,478	206,024
Value.....	\$1,587,664	\$1,064,969	\$482,070
Cardigan jackets, sweaters, etc.:			
Dozens.....	150,295	115,457	( <sup>2</sup> )
Value.....	\$1,669,895	\$1,355,728	( <sup>2</sup> )
All other products.....	\$653,199	\$581,570	\$1,349,794

<sup>1</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>2</sup> Included in "all other products."

**Boots and shoes.**—Table 48 shows the number of pairs of the various kinds of boots, shoes, and slippers manufactured in Ohio in 1914, 1909, and 1904.

Table 48

	NUMBER OF PAIRS.		
	1914	1909	1904
Products, total.....	17,973,441	18,908,915	18,263,416
Boots and shoes.....	17,161,199	17,693,316	18,063,299
Men's.....	1,419,925	1,702,194	1,661,202
Boys' and youths'.....	1,734,957	1,372,330	1,590,568
Women's.....	10,966,825	11,154,083	9,797,093
Misses' and children's.....	3,039,492	3,464,709	5,014,436
Slippers.....	662,456	1,147,239	192,053
All other footwear.....	149,786	68,360	8,064

The boot and shoe industry in Ohio in 1914 showed a decrease of 4.9 per cent from the production in 1909. Women's boots and shoes were by far the most important class manufactured, 13.6 per cent of the total for this class for the United States in 1914 being made in Ohio, a larger proportion than in 1909, although there was a decrease in the number produced of 187,258 pairs, or 1.7 per cent.

Table 49 shows the number of pairs of the various kinds of footwear produced in 1914 and 1909, classified according to method of manufacture.

Table 49

PRODUCT.	Cen- sus year.	NUMBER OF PAIRS, BY METHOD OF MANUFACTURE.			
		Total.	Welted.	McKay.	Turned, and wood or metal fastened.
Boots and shoes.....	1914	17,161,199	6,027,083	9,914,687	1,219,429
	1909	17,693,316	5,760,738	9,706,685	2,225,893
Men's, boys', and youths'.....	1914	3,154,882	1,217,226	1,796,438	141,218
	1909	3,074,524	1,471,204	1,806,345	796,975
Women's.....	1914	10,966,825	4,603,637	5,332,200	1,030,988
	1909	11,154,083	4,038,641	6,073,809	1,041,633
Misses' and children's.....	1914	3,039,492	206,220	2,786,049	47,223
	1909	3,464,709	250,893	2,826,531	387,285
Slippers.....	1914	662,456	.....	470,055	<sup>1</sup> 192,401
	1909	1,147,239	49,376	579,765	518,098
All other footwear.....	1914	149,786	.....	.....	149,786
	1909	68,360	.....	.....	<sup>2</sup> 68,360

<sup>1</sup> Includes "welted."<sup>2</sup> Includes all kinds reported.

Of the total number of boots and shoes manufactured, 57.8 per cent were made by the McKay method and 35.1 per cent were welted. Of the men's, boys', and youths', 56.9 per cent were made by the McKay method, and 38.6 per cent were welted; of the women's, which formed 63.9 per cent of all the boots and shoes made in the state, 48.6 per cent were of the McKay variety and 42 per cent were welted. Misses' and children's shoes were made principally by the McKay method, 91.7 per cent being of this type.

**Laundries.**—Statistics for power laundries are not included in the general tables or in the totals for all manufacturing industries. Table 50, however, summarizes these statistics for Ohio for 1914 and 1909.

In 1914 Ohio ranked sixth among the states both in number of persons engaged in the industry and in

amount received for work done. The foregoing table shows increases between 1909 and 1914 for all items given except amount paid for contract work. The amount received for work done increased \$2,433,537, or 45.2 per cent, and the average number of wage earners 1,372, or 23.3 per cent. In 1914 establishments owned by individuals reported 18.2 per cent of the amount received for work done; those owned by corporations, 62.7 per cent; and those under all other forms of ownership, 19.1 per cent. Seventy-seven establishments had receipts for the year of less than \$5,000; 121, receipts of \$5,000 but less than \$20,000; 78, receipts of \$20,000 but less than \$100,000; and 20, receipts of \$100,000 but less than \$1,000,000.

Table 50

	POWER LAUNDRIES.		
	Number or amount.		Per cent of in- crease, <sup>1</sup> 1909- 1914.
	1914	1909	
Number of establishments.....	296	253	17.0
Persons engaged.....	8,434	6,773	24.5
Proprietors and firm members.....	309	277	11.6
Salaried employees.....	860	603	42.6
Wage earners (average number).....	7,265	5,893	23.3
Primary horsepower.....	10,909	7,431	46.8
Capital.....	\$5,066,162	\$3,802,957	33.2
Salaries and wages.....	3,996,649	2,772,137	44.2
Salaries.....	839,455	512,965	63.6
Wages.....	3,157,194	2,259,170	39.7
Paid for contract work.....	2,555	23,874	-89.3
Rent and taxes.....	180,002	122,580	46.8
Cost of materials.....	1,361,546	871,722	56.2
Amount received for work done.....	7,822,491	5,388,954	45.2

<sup>1</sup> A minus sign (—) denotes decrease.

Table 51 shows, for 1914 and 1909, the number of wage earners employed in the laundries on the 15th of each month, or the nearest representative day, and the percentage which this number represents of the greatest number employed in any month of the same year.

Table 51

MONTH.	WAGE EARNERS.			
	Number.		Per cent of maxi- mum.	
	1914	1909	1914	1909
January.....	7,132	5,641	93.8	92.9
February.....	7,067	5,626	93.0	92.7
March.....	7,135	5,794	93.9	95.5
April.....	7,279	5,800	95.8	95.6
May.....	7,362	5,897	96.9	97.2
June.....	7,599	6,043	100.0	99.6
July.....	7,505	6,054	98.8	99.8
August.....	7,391	5,976	97.3	98.5
September.....	7,349	6,069	96.7	100.0
October.....	7,166	5,958	94.3	98.2
November.....	7,119	5,912	93.7	97.4
December.....	7,092	5,946	93.3	98.0

Table 52 gives statistics as to kinds and amounts of power used in the laundries of the state in 1914 and 1909, together with the percentages of increase for the five-year period.

Table 52

	NUMBER OF ENGINES OR MOTORS.		HORSEPOWER.		
	1914	1909	Amount.		Per cent of increase, <sup>1</sup> 1909-1914
			1914	1909	
Primary power, total.....	582	327	10,909	7,431	46.8
Owned.....	265	245	9,626	7,022	37.1
Steam.....	222	198	8,902	6,235	42.8
Internal combustion.....	42	45	699	737	-5.2
Water wheels and motors.....	1	2	25	50	-50.0
Rented.....	317	82	1,283	409	213.7
Electric.....	317	82	1,228	401	206.2
Other.....			55	8	587.5
Electric—Generated in establishment reporting.....	1,036	605	2,195	1,338	64.1

<sup>1</sup> A minus sign (—) denotes decrease.

Table 53 shows the kinds and quantities of fuel used in the laundries, as reported at the censuses of 1914 and 1909, with the percentages of increase.

KIND.	Unit.	QUANTITY.		Per cent of increase, <sup>1</sup> 1909-1914.
		1914	1909	
Anthracite coal.....	Tons, 2,240 pounds.....	1,994	398	401.0
Bituminous coal.....	Tons, 2,000 pounds.....	57,922	59,799	-3.1
Coke.....	Tons, 2,000 pounds.....	651	77	745.4
Oil.....	Barrels.....	116	73	58.9
Gas.....	1,000 cubic feet.....	742,424	649,446	14.3

<sup>1</sup> A minus sign (—) denotes decrease.

## GENERAL TABLES.

Table 54 gives, for 1914, 1909, and 1904, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products, for selected industries in the state and in cities having 50,000 inhabitants or more; and for cities having from 10,000 to 50,000 inhabitants, similar data for all industries combined.

TABLE 54.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904.

INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horse-power.	Wages.	Cost of materials.	Value of products.	INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horse-power.	Wages.	Cost of materials.	Value of products.
					Expressed in thousands.								Expressed in thousands.		
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.															
All industries.....	1914	15,658	510,435	2,002,780	\$317,924	\$1,020,782	\$1,782,808	Brick, tile, pottery, and other clay products.	1914	549	27,334	76,432	\$16,487	\$12,176	\$38,667
	1909	15,138	446,934	1,583,155	245,450	824,202	1,437,936		1909	703	23,985	64,520	12,155	8,665	30,531
	1904	13,785	364,298	1,116,932	182,429	527,637	960,812		1904	795	22,638	58,045	10,619	6,456	25,687
Agricultural implements.	1914	59	5,464	11,677	3,826	7,810	17,485	Brushes.....	1914	16	677	848	298	732	1,544
	1909	55	5,997	9,867	3,155	6,319	14,440		1909	22	425	675	158	625	1,219
	1904	71	5,659	8,364	2,910	5,692	12,891	Butter, cheese, and condensed milk.	1914	286	1,480	6,677	1,049	15,968	19,326
Artificial stone products	1914	403	954	2,949	535	763	1,946		1909	325	1,067	3,366	557	7,685	9,690
	1909	299	802	1,325	404	499	1,378		1904	431	488	3,462	292	3,729	4,593
	1904	67	280	347	135	167	446	Canning and preserving.	1914	2135	2,507	7,079	946	5,897	8,951
Automobiles, including bodies and parts.	1914	102	18,752	30,249	13,411	55,330	85,711		1909	107	2,009	4,244	532	3,102	4,660
	1909	75	12,130	14,433	7,746	18,522	38,839		1904	107	2,144	3,580	577	2,701	4,491
	1904	22	2,722	1,877	1,617	2,553	6,358	Carriages and wagons and materials.	1914	341	5,997	13,381	3,839	8,561	16,192
Awnings, tents, and sails.	1914	38	615	348	299	1,270	2,131		1909	407	8,815	14,771	4,647	11,414	21,949
	1909	30	392	260	163	853	1,387		1904	456	11,027	16,936	5,269	12,856	24,003
	1904	17	241	107	101	326	718	Carriages and sleds, children's.	1914	7	1,267	1,049	762	1,121	2,426
Bags, paper.....	1914	9	646	853	305	1,831	2,893		1909	9	1,035	885	490	785	1,977
	1909	8	557	508	240	1,638	2,363		1904	8	1,086	738	481	803	1,823
	1904	9	482	1,389	177	955	1,513	Cars and general shop construction and repairs by electric-railroad companies.	1914	48	1,879	3,687	1,228	1,077	2,386
Belting, leather.....	1914	10	78	216	56	543	730		1909	49	1,318	3,635	722	801	1,691
	1909	8	107	405	80	795	1,080		1904	5	150	20	94	55	172
	1904	6	80	307	48	550	753	Cars and general shop construction and repairs by steam railroad companies.	1914	88	21,639	31,389	9,471	16,054	33,286
Blackening and cleansing and polishing preparations.	1914	54	104	237	53	339	798		1909	71	20,728	19,422	12,726	14,266	28,690
	1909	49	103	297	50	297	672		1904	74	17,026	13,954	9,890	10,225	21,428
	1904	21	38	60	14	62	152	Cars, electric-railroad, not including operations of railroad companies.	1914	4	916	4,213	612	2,289	3,594
Boots and shoes, including cut stock and findings.	1914	73	14,674	9,945	7,132	19,883	33,642		1909	4	734	2,875	471	1,094	1,955
	1909	72	16,026	8,925	6,646	18,872	31,551		1904	4	765	1,850	475	1,069	1,828
	1904	73	14,032	6,113	5,275	14,989	25,735	Cars, steam-railroad, not including operations of railroad companies.	1914	5	2,885	6,420	2,434	8,558	11,796
Boxes, cigar.....	1914	26	443	564	161	339	628		1909	6	2,282	4,410	1,304	4,195	6,451
	1909	31	531	1,029	167	360	711		1904	5	2,065	1,725	1,198	3,358	5,539
	1904	30	480	506	136	374	669	Cement.....	1914	7	849	6,975	521	890	2,112
Boxes, fancy and paper.	1914	49	2,456	1,941	961	2,087	4,060		1909	9	887	12,685	544	638	1,465
	1909	46	2,530	1,825	830	1,931	3,635		1904	12	743	9,579	452	534	1,508
	1904	42	1,743	827	475	1,072	2,133	Chemicals.....	1914	29	2,017	18,751	1,460	6,726	11,388
Brass, bronze, and copper products.	1914	84	2,277	4,393	1,557	4,190	7,843		1909	33	1,132	11,715	749	4,748	7,742
	1909	82	2,232	4,214	1,372	3,533	6,572		1904	18	1,025	6,169	652	3,003	4,590
	1904	70	1,485	1,860	808	1,545	3,347	Clocks and watches, including cases and materials.	1914	9	1,305	626	779	679	1,808
Bread and other bakery products.	1914	1,634	7,665	8,978	4,783	17,295	30,561		1909	9	1,456	877	784	526	1,981
	1909	1,467	5,972	5,398	3,371	13,666	23,007		1904	6	1,712	649	851	714	1,869
	1904	1,138	5,295	3,875	2,520	9,059	15,641								

<sup>1</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.<sup>2</sup> Includes "canning and preserving, fruits and vegetables," and "pickles, preserves, and sauces."

## MANUFACTURES—OHIO.

TABLE 54.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horse-power.	Expressed in thousands.			INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horse-power.	Expressed in thousands.		
					Wages.	Cost of materials.	Value of products.						Wages.	Cost of materials.	Value of products.
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
Clothing, men's, including shirts.	1914	257	10,758	2,948	\$4,903	\$13,756	\$27,622	Hats and caps, other than felt, straw, and wool.	1914	28	431	58	\$224	\$574	\$1,040
	1909	342	9,950	1,794	4,050	12,920	24,869		1909	25	406	83	174	422	804
	1904	357	7,185	1,315	2,749	9,937	19,346		1904	21	349	67	139	272	642
Clothing, women's.....	1914	170	9,775	1,719	5,137	12,090	22,882	Hosiery and knit goods.	1914	38	3,411	2,740	1,502	5,033	8,654
	1909	153	8,843	1,505	4,272	10,291	19,493		1909	39	3,149	1,613	1,072	3,851	6,433
	1904	143	6,379	1,363	2,724	6,769	12,804		1904	28	2,490	1,211	714	2,177	3,997
Coffee and spice, roasting and grinding.	1914	35	822	2,062	385	10,184	13,312	House-furnishing goods, not elsewhere specified.	1914	26	320	895	162	996	1,430
	1909	39	762	2,136	352	8,277	11,224		1909	22	364	1,069	143	924	1,560
	1904	28	592	1,680	221	7,626	9,958		1904	24	366	.....	133	439	796
Coffins, burial cases, and undertakers' goods.	1914	19	1,252	2,268	702	1,294	2,966	Ice, manufactured.....	1914	132	1,277	27,978	904	876	3,134
	1909	24	1,245	2,289	525	1,324	3,061		1909	97	892	19,058	559	564	2,270
	1904	19	1,164	1,454	537	1,176	2,524		1904	69	520	11,882	296	292	1,217
Coke, not including gas-house coke.	1914	5	489	2,325	352	1,607	2,157	Ink, printing.....	1914	7	254	1,913	196	1,354	2,764
	1909	4	246	1,250	120	640	851		1909	8	183	1,437	131	809	1,907
	1904	4	113	350	54	170	259		1904	6	135	732	99	407	1,319
Confectionery.....	1914	132	3,149	4,200	1,254	6,081	10,134	Iron and steel, blast furnaces.	1914	33	5,786	232,179	5,171	60,739	72,969
	1909	114	2,493	2,005	840	4,089	7,307		1909	40	7,295	215,730	5,090	63,425	83,699
	1904	70	1,750	891	526	2,272	4,712		1904	33	5,434	167,740	3,471	32,477	40,802
Cooperage and wooden goods, not elsewhere specified.	1914	95	1,516	4,037	818	2,547	3,946	Iron and steel, steel works and rolling mills.	1914	70	46,397	642,958	38,004	139,676	205,023
	1909	113	1,663	3,453	803	2,216	3,516		1909	75	38,586	515,813	28,614	139,243	197,780
	1904	120	1,723	3,096	823	1,968	3,559		1904	57	27,756	304,162	18,658	78,210	111,997
Copper, tin, and sheet-iron products.	1914	1,288	7,448	8,483	4,500	14,450	25,059	Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.	1914	15	2,365	6,187	1,323	2,602	4,651
	1909	221	6,598	6,362	3,163	11,622	19,086		1909	17	2,797	4,782	1,336	3,421	6,257
	1904	180	3,970	3,779	1,746	5,341	9,414		1904	14	2,331	.....	966	2,413	4,196
Cordage and twine and jute goods.	1914	6	560	2,512	245	1,394	2,232	Iron and steel forgings, not made in steel works or rolling mills.	1914	29	2,308	7,440	1,570	3,937	6,752
	1909	8	791	3,225	313	1,984	2,728		1909	30	2,002	4,912	1,117	2,221	4,044
	1904	8	1,070	3,285	361	2,518	3,250		1904	22	1,378	.....	783	1,324	2,842
Cutlery and tools, not elsewhere specified.	1914	81	3,199	8,079	1,898	1,961	6,612	Iron and steel, wrought pipe.	1914	5	2,285	3,193	1,535	6,152	9,368
	1909	70	2,820	6,567	1,518	1,650	5,036		1909	5	1,081	3,770	640	2,507	3,418
	1904	58	2,467	4,836	1,116	1,256	3,567		1904	4	660	.....	350	2,115	2,620
Dairymen's, poultrymen's, and apiarists' supplies.	1914	18	442	1,002	233	722	1,277	Jewelry.....	1914	57	477	348	337	403	1,265
	1909	18	479	916	262	527	1,149		1909	35	356	116	252	619	1,255
	1904	15	361	662	167	419	852		1904	16	262	94	162	229	653
Electrical machinery, apparatus, and supplies.	1914	119	12,695	17,771	7,409	17,482	36,121	Leather goods.....	1914	187	1,743	1,437	966	3,473	5,728
	1909	115	8,073	11,959	3,847	7,226	18,777		1909	86	1,890	1,399	879	2,859	4,939
	1904	92	5,114	7,138	2,268	4,699	11,019		1904	94	2,412	1,813	1,063	2,931	5,444
Explosives.....	1914	11	311	5,646	188	972	1,439	Leather, tanned, curried, and finished.	1914	28	1,605	4,450	1,054	8,506	11,628
	1909	11	358	2,692	204	1,104	1,710		1909	36	1,884	4,244	1,083	7,720	10,123
	1904	16	428	4,075	236	1,275	1,843		1904	40	1,610	2,770	839	4,462	6,513
Fertilizers.....	1914	24	1,005	4,739	590	4,627	7,246	Lime.....	1914	38	1,416	7,374	777	706	2,334
	1909	27	841	3,059	368	2,535	4,435		1909	39	1,273	3,872	553	598	1,620
	1904	17	490	2,630	235	1,386	2,289		1904	41	899	3,318	331	532	1,334
Flags, banners, regalia, society badges, and emblems.	1914	17	1,074	487	531	1,203	2,605	Liquors, distilled.....	1914	18	332	2,809	223	1,988	10,684
	1909	13	1,262	568	523	1,509	3,026		1909	17	374	2,422	230	2,514	12,011
	1904	16	1,120	421	429	1,023	2,257		1904	23	627	3,517	317	3,410	15,977
Flour-mill and gristmill products.	1914	649	2,363	53,524	1,506	38,957	45,171	Liquors, malt.....	1914	101	5,340	38,048	4,416	9,190	31,990
	1909	673	2,585	52,250	1,415	41,353	48,093		1909	105	4,356	31,690	3,267	6,563	25,332
	1904	694	2,700	53,880	1,840	35,626	40,856		1904	114	3,771	25,288	2,802	5,956	21,621
Food preparations, not elsewhere specified.	1914	76	1,523	5,709	827	20,035	27,346	Liquors, vinous.....	1914	28	186	447	115	1,053	1,800
	1909	61	1,020	3,254	455	8,271	10,837		1909	29	149	406	79	718	1,304
	1904	31	874	.....	339	6,369	7,860		1904	47	170	677	88	691	1,335
Foundry and machine-shop products.	1914	1,379	73,103	159,172	48,318	77,503	178,855	Lumber and timber products.	1914	1,188	11,921	61,162	7,104	18,017	31,853
	1909	1,218	64,817	112,538	38,015	64,560	145,837		1909	1,390	13,456	69,255	6,701	19,972	34,597
	1904	1,003	52,986	78,859	28,207	44,546	103,713		1904	1,312	13,570	68,536	6,594	17,733	32,926
Furniture and refrigerators.	1914	213	7,831	16,317	4,469	7,429	16,687	Marble and stone work..	1914	213	2,523	10,353	1,636	2,049	5,264
	1909	228	8,232	15,951	4,142	7,242	16,259		1909	198	2,012	7,070	1,161	1,450	3,847
	1904	212	8,672	14,490	3,910	5,544	13,827		1904	123	3,035	9,998	1,626	1,732	4,863
Gas and electric fixtures and lamps and reflectors.	1914	52	1,832	2,868	1,021	2,600	4,899	Mattresses and spring beds.	1914	43	934	2,228	500	1,998	3,427
	1909	56	1,437	2,356	748	1,777	3,563		1909	38	961	2,069	435	1,682	3,307
	1904	22	662	714	288	484	1,284		1904	35	603	1,798	275	1,392	2,296
Gas, illuminating and heating.	1914	25	398	1,353	262	480	1,432	Millinery and lace goods.	1914	30	911	409	433	1,005	1,918
	1909	38	666	2,165	431	827	3,080		1909	31	1,357	603	478	1,459	2,744
	1904	58	2,239	2,052	1,083	1,347	4,812		1904	17	456	132	141	288	596
Glass.....	1914	39	10,997	34,871	7,053	7,046	19,191	Mineral and soda waters.	1914	202	575	1,059	342	860	2,004
	1909	45	10,159	16,193	5,977	4,688	14,358		1909	174	457	1,050	237	452	1,395
	1904	37	7,844	11,256	4,512	2,837	9,026		1904	148	447	.....	235	267	983
Grease and tallow, not including lubricating greases.	1914	34	400	2,010	270	671	1,216	Models and patterns, not including paper patterns.	1914	98	519	1,036	393	183	896
	1909	23	300	1,264	171	591	1,017		1909	74	441	673	294	159	670
	1904	22	125	.....	72	447	643		1904	61	283	631	174	58	386

<sup>1</sup> Includes "stamped and enameled ware, not elsewhere specified," and "tinware, not elsewhere specified."

<sup>2</sup> Includes "automobile repairing;" "bells;" "engines, steam, gas, and water;" "gas machines and gas and water meters;" "hardware;" "hardware, saddlery;" "iron and steel, cast-iron pipe;" "plumbers' supplies, not elsewhere specified;" "pumps, steam and other power;" "steam fittings and steam and hot-water heating apparatus," and "structural ironwork, not made in steel works or rolling mills."

<sup>3</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>4</sup> Includes "saddlery and harness," and "trunks and valises."

<sup>5</sup> Includes "boxes, wooden packing;" "lumber, planing-mill products, not including planing mills connected with sawmills," and "window and door screens and weather strips."

TABLE 54.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of ma- terials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of ma- terials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
Motoreycles, bicycles, and parts.	1914 1909 1904	9 6 3	752 942 446	1,951 1,895 547	\$518 686 293	\$1,634 1,066 457	\$2,931 2,308 1,041	Screws, machine.....	1914 1909 1904	7 6 4	1,464 324 438	2,885 915 1,160	\$942 204 226	\$1,368 178 301	\$3,275 598 793
Musical instruments, pianos and organs and materials.	1914 1909 1904	27 30 26	1,745 1,841 2,210	2,201 2,254 2,153	1,022 1,092 1,205	1,673 1,922 1,625	3,545 3,926 3,684	Shipbuilding, including boat building.	1914 1909	29 39	2,879 3,200	9,661 8,125	1,939 1,705	1,909 2,462	4,717 5,676
Oil, linseed.....	1914 1909 1904	3 4 4	150 213 71	1,603 1,347 950	116 83 50	3,642 3,081 2,135	3,958 3,627 2,400	Show cases.....	1914 1909 1904	11 14 14	302 349 438	711 569 742	178 173 228	280 307 314	619 668 749
Oil, not elsewhere speci- fied.	1914 1909 1904	20 21 20	138 157 140	495 330 .....	105 102 74	1,888 1,252 1,046	2,676 2,037 1,570	Signs and advertising novelties.	1914 1909	50 28	1,372 1,096	1,800 1,125	734 505	1,744 941	3,551 2,598
Paint and varnish.....	1914 1909 1904	95 87 75	2,107 1,535 1,111	8,721 5,572 4,275	1,295 904 581	11,339 8,570 5,855	19,327 13,617 8,530	Slaughtering and meat packing.	1914 1909 1904	169 158 105	3,619 3,086 2,315	13,037 9,873 4,434	1,488 1,857 1,355	59,681 44,347 25,311	66,674 50,804 29,155
Paper and wood pulp...	1914 1909 1904	48 47 53	5,430 4,673 3,883	50,013 51,402 36,288	3,378 2,419 1,683	16,109 10,898 6,154	23,284 16,965 10,962	Springs, steel, car and carriage.	1914 1909	7 5	819 318	1,567 410	628 186	1,550 297	2,774 642
Paper goods, not else- where specified.	1914 1909 1904	129 28 23	2,269 2,040 2,049	3,702 1,909 2,020	1,179 882 653	4,197 3,434 1,836	8,148 6,307 3,973	Stationery goods, not elsewhere specified.	1914 1909 1904	15 14 11	708 982 461	1,118 2,130 .....	394 383 144	906 996 396	2,174 2,434 861
Patent medicines and compounds and drug- gists' preparations.	1914 1909 1904	252 261 196	1,032 905 1,046	1,949 1,568 1,255	479 385 386	3,018 1,888 2,118	7,734 5,859 7,371	Stoves and furnaces, in- cluding gas and oil stoves.	1914 1909 1904	105 102 102	8,575 7,274 6,509	10,648 9,478 6,859	5,751 4,217 3,634	8,415 6,300 4,005	19,982 15,355 10,191
Paving materials.....	1914 1909	66 5	1,957 56	23,885 374	1,169 33	723 68	3,507 210	Tin plate and terneplate	1914 1909	7 4	953 676	1,330 1,849	659 449	9,443 7,155	10,826 7,889
Petroleum, refining....	1914 1909 1904	7 10 12	1,519 1,659 1,900	4,920 4,324 4,386	1,025 1,028 1,054	9,924 8,145 7,662	11,169 10,754 10,949	Tobacco manufactures..	1914 1909 1904	961 1,146 1,329	13,282 12,631 11,175	2,043 1,401 1,011	5,352 4,505 3,912	11,917 12,075 7,500	28,467 28,907 20,489
Photo-engraving.....	1914 1909 1904	26 20 11	411 277 180	366 215 159	396 242 146	170 109 36	974 576 321	Toys and games.....	1914 1909 1904	36 19 10	1,103 387 379	941 253 263	520 175 127	799 379 132	1,909 768 353
Printing and publishing	1914 1909 1904	1,783 1,655 1,542	18,070 15,766 13,859	24,308 18,417 12,272	12,800 9,355 7,573	17,070 11,904 8,679	55,609 41,657 31,327	Umbrellas and canes...	1914 1909 1904	13 15 12	267 237 280	184 82 111	101 105 88	480 607 488	836 1,005 833
Pumps, not including power pumps.	1914 1909 1904	17 20 19	1,014 897 360	1,403 1,322 633	639 517 192	1,404 1,271 218	3,277 2,747 672	Wall plaster.....	1914 1909 1904	22 23 27	626 259 466	3,017 1,823 1,730	370 106 225	770 434 382	1,714 935 1,037
Roofing materials.....	1914 1909 1904	18 11 15	715 428 255	2,076 3,229 .....	429 251 137	2,319 3,147 2,410	3,906 3,900 3,148	Wirework, including wire rope and cable.	1914 1909 1904	43 60 50	810 1,455 1,379	1,281 2,511 .....	456 823 556	2,167 1,806 1,278	3,435 3,620 2,517
Rubber goods, not else- where specified.	1914 1909 1904	54 37 27	21,705 10,382 4,815	58,672 25,885 13,945	14,578 5,060 2,318	58,737 32,442 10,226	109,659 53,911 15,964	Wood, turned and carved.	1914 1909 1904	61 83 83	985 1,208 1,207	4,250 4,811 .....	520 533 490	1,286 1,063 1,062	2,284 2,460 2,214
Safes and vaults.....	1914 1909 1904	10 10 11	1,760 2,014 2,153	5,603 3,177 2,316	1,153 1,321 1,395	1,483 2,162 2,047	4,337 5,488 4,895	Wool shoddy.....	1914 1909 1904	5 4 5	523 438 426	1,410 1,100 1,100	255 200 158	820 742 948	1,353 1,257 1,239
Salt.....	1914 1909 1904	8 8 8	813 648 539	4,937 4,034 1,705	441 361 236	1,204 1,090 663	2,197 1,807 1,168	All other industries....	1914 1909 1904	1,222 958 930	39,423 33,928 30,741	98,832 67,919 71,687	22,192 16,901 13,995	71,844 59,460 44,664	133,093 110,313 79,436

## CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

<b>AKRON—All indus- tries.</b>								<b>AKRON—Continued. Foundry and machine- shop products.</b>							
1914	305	24,680	65,942	\$17,310	\$86,062	\$122,292		1914	34	1,552	4,352	\$1,133	\$1,099	\$3,047	
1909	246	15,831	36,263	8,936	43,071	73,158		1909	26	969	2,015	650	1,062	2,248	
1904	186	9,626	.....	4,893	20,410	33,559		1904	20	832	.....	488	1,360	2,368	
Artificial stone products								Liquors, malt.....							
1914	15	19	37	13	16	44		1914	3	184	1,732	136	308	1,352	
1909	10	30	16	15	15	41		1909	3	81	1,522	57	170	645	
1904	3	22	.....	11	8	36		1904	3	63	.....	46	113	405	
Bread and other bakery products.								Lumber and timber products.							
1914	41	183	280	126	443	719		1914	13	367	1,280	245	883	1,326	
1909	25	90	105	58	255	417		1909	10	319	989	191	437	792	
1904	12	30	.....	18	47	76		1904	8	159	.....	99	396	602	
Brick, tile, pottery, and other clay products.								Patent medicines and compounds.							
1914	15	1,048	2,966	612	515	1,488		1914	6	4	10	1	5	15	
1909	18	1,172	2,902	600	443	1,491		1909	8	6	.....	2	9	29	
1904	22	1,362	.....	676	441	1,818		1904	5	3	.....	2	5	28	
Carriages and wagons...								Printing and publish- ing.							
1914	8	100	194	75	54	193		1914	37	800	1,027	534	685	1,938	
1909	7	115	357	68	78	236		1909	27	734	934	452	597	2,353	
1904	10	159	.....	88	142	293		1904	20	970	.....	523	655	2,835	

1 Includes "envelopes."

2 Includes "perfumery and cosmetics."

3 Includes "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing," and "lithography."

4 Includes "sausage."

5 Includes "automobile repairing;" "engines, steam, gas, and water;" "hardware;" "hardware, saddlery;" and "structural ironwork, not made in steel works or rolling mills."

6 Includes "lumber, planing-mill products, not including planing mills connected with sawmills," and "window and door screens."

7 Excludes statistics for one establishment, to avoid disclosure of individual operations.

8 Includes "bookbinding and blank-book making" and "lithography."



## MANUFACTURES—OHIO.

TABLE 54.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.			Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.			Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.		
					Expressed in thousands.							Expressed in thousands.									
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.																					
AKRON—Continued. Rubber goods, not else- where specified.	1914	18	17,468	43,886	\$12,296	\$49,063	\$92,547	1914	177	1,669	1,524	\$925	\$3,690	\$6,386	1909	187	1,340	909	723	\$3,034	\$5,103
	1909	14	9,015	20,225	5,065	29,630	49,329	1904	199	1,314	909	592	2,311	3,892							
	1914	4	362	900	264	228	888	1914	10	287	749	171	86	391	1909	14	336	650	159	65	464
	1909	5	334	610	228	245	754	1909	14	336	650	159	65	464	1904	3	302	.....	199	165	468
Stoves and hot-air fur- naces.	1914	5	6	.....	3	3	14	1914	10	287	749	171	86	391	1909	5	334	610	228	245	754
	1909	4	334	610	228	245	754	1909	14	336	650	159	65	464	1904	3	302	.....	199	165	468
	1904	3	302	.....	199	165	468	1904	19	249	.....	122	57	358							
	1904	3	302	.....	199	165	468	1904	19	249	.....	122	57	358							
Tobacco, cigars.....	1914	5	6	.....	3	3	14	1914	10	287	749	171	86	391	1909	5	334	610	228	245	754
	1909	7	10	.....	4	6	18	1909	14	336	650	159	65	464	1904	3	302	.....	199	165	468
	1904	10	15	.....	6	6	22	1904	19	249	.....	122	57	358							
	1904	10	15	.....	6	6	22	1904	19	249	.....	122	57	358							
All other industries.....	1914	106	2,587	9,278	1,872	12,160	17,821	1914	10	287	749	171	86	391	1909	5	334	610	228	245	754
	1909	86	2,956	6,588	1,546	10,124	14,805	1909	14	336	650	159	65	464	1904	3	302	.....	199	165	468
	1904	70	5,709	.....	2,737	17,072	24,608	1904	19	249	.....	122	57	358							
	1904	70	5,709	.....	2,737	17,072	24,608	1904	19	249	.....	122	57	358							
CANTON—All in- dustries.	1914	276	12,255	43,071	\$8,550	\$21,808	\$43,713	1914	6	747	1,023	564	341	971	1909	3	314	590	203	111	328
	1909	204	9,964	27,016	5,719	14,644	28,583	1909	3	314	590	203	111	328	1904	3	314	590	203	111	328
	1904	158	5,938	.....	2,964	4,594	10,591	1904	3	449	.....	282	199	510							
	1904	158	5,938	.....	2,964	4,594	10,591	1904	3	449	.....	282	199	510							
Agricultural imple- ments.	1914	4	271	326	194	543	1,105	1914	11	81	493	51	362	618	1909	11	122	508	76	474	899
	1909	5	283	442	127	401	819	1909	11	122	508	76	474	899	1904	9	99	.....	59	651	958
	1904	5	525	.....	239	533	1,154	1904	9	99	.....	59	651	958							
	1904	5	525	.....	239	533	1,154	1904	9	99	.....	59	651	958							
Bread and other bakery products.	1914	25	131	116	66	203	421	1914	115	5,477	1,628	2,668	7,421	15,105	1909	183	5,718	559	2,512	8,680	16,975
	1909	19	59	38	34	147	253	1909	183	5,718	559	2,512	8,680	16,975	1904	217	4,320	.....	1,702	7,756	14,761
	1904	7	42	.....	21	49	90	1904	217	4,320	.....	1,702	7,756	14,761							
	1904	7	42	.....	21	49	90	1904	217	4,320	.....	1,702	7,756	14,761							
Confectionery.....	1914	9	38	35	22	37	88	1914	26	1,137	167	616	1,370	2,567	1909	7	30	18	10	42	69
	1909	7	30	18	10	42	69	1909	26	1,325	176	619	1,514	2,913	1904	3	17	.....	5	11	19
	1904	3	17	.....	5	11	19	1904	29	1,171	.....	457	1,497	2,712							
	1904	3	17	.....	5	11	19	1904	29	1,171	.....	457	1,497	2,712							
Cutlery and tools, not elsewhere specified.	1914	7	139	184	84	116	293	1914	7	227	657	107	1,782	2,280	1909	5	138	230	74	93	258
	1909	5	138	230	74	93	258	1909	8	221	691	91	1,505	2,110	1904	3	120	.....	56	90	207
	1904	3	120	.....	56	90	207	1904	10	170	.....	62	1,432	1,835							
	1904	3	120	.....	56	90	207	1904	10	170	.....	62	1,432	1,835							
Foundry and machine- shop products.	1914	147	2,153	3,420	1,400	2,634	8,042	1914	21	909	980	345	1,377	2,343	1909	32	1,748	3,409	1,005	2,267	4,891
	1909	32	1,748	3,409	1,005	2,267	4,891	1909	22	771	573	279	1,222	2,029	1904	25	1,225	.....	620	1,298	2,704
	1904	25	1,225	.....	620	1,298	2,704	1904	15	653	.....	225	977	1,568							
	1904	25	1,225	.....	620	1,298	2,704	1904	15	653	.....	225	977	1,568							
Leather goods.....	1914	7	219	130	133	310	545	1914	20	508	1,446	298	734	1,247	1909	3	267	131	116	339	549
	1909	3	267	131	116	339	549	1909	20	632	1,269	292	766	1,232	1904	3	56	.....	27	54	117
	1904	3	56	.....	27	54	117	1904	23	641	.....	318	727	1,350							
	1904	3	56	.....	27	54	117	1904	23	641	.....	318	727	1,350							
Lumber and timber products.	1914	10	46	272	34	52	128	1914	48	1,139	1,495	712	3,548	5,570	1909	3	46	180	29	95	135
	1909	3	46	180	29	95	135	1909	37	833	1,154	413	1,633	2,775	1904	10	80	.....	44	100	202
	1904	10	80	.....	44	100	202	1904	35	918	.....	432	1,199	2,348							
	1904	10	80	.....	44	100	202	1904	35	918	.....	432	1,199	2,348							
Printing and publish- ing.	1914	21	251	275	193	305	775	1914	9	101	518	95	137	391	1909	17	161	185	88	78	293
	1909	17	161	185	88	78	293	1909	9	55	166	35	51	136	1904	13	131	.....	74	52	218
	1904	13	131	.....	74	52	218	1904	11	85	.....	45	48	175							
	1904	13	131	.....	74	52	218	1904	11	85	.....	45	48	175							
Tobacco, cigars.....	1914	16	40	.....	16	27	65	1914	16	319	329	191	469	902	1909	19	70	.....	27	42	106
	1909	19	70	.....	27	42	106	1909	13	313	397	200	333	836	1904	16	67	.....	33	22	79
	1904	16	67	.....	33	22	79	1904	13	243	.....	136	283	621							
	1904	16	67	.....	33	22	79	1904	13	243	.....	136	283	621							
All other industries.....	1914	130	8,967	38,313	6,408	17,581	32,251	1914	9	436	287	205	505	947	1909	94	7,162	22,383	4,209	11,140	21,210
	1909	94	7,162	22,383	4,209	11,140	21,210	1909	8	403	317	162	503	888	1904	73	3,675	.....	1,845	2,385	5,801
	1904	73	3,675	.....	1,845	2,385	5,801	1904	9	327	.....	114	331	699							
	1904	73	3,675	.....	1,845	2,385	5,801	1904	9	327	.....	114	331	699							
CINCINNATI— All industries.	1914	2,135	59,861	106,689	33,159	114,107	210,860	1914	7	43	725	35	1,036	1,153	1909	2,183	60,182	88,522	31,097	101,407	192,516
	1909	2,183	60,182																		

## MANUFACTURES—OHIO.

49

TABLE 54.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horse-power.	Wages.	Cost of materials.	Value of products.	INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horse-power.	Wages.	Cost of materials.	Value of products.														
Expressed in thousands.								Expressed in thousands.																					
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.																													
<b>CINCINNATI—Con.</b>	1914	20	1,727	13,114	\$1,549	\$2,944	\$10,353	<b>CLEVELAND—Con.</b>	1914	224	1,612	1,787	\$1,222	\$3,917	\$6,908														
Liquors, malt.....	1909	22	1,578	11,416	1,168	2,173	8,874	Bread and other bakery products.	1909	198	1,229	14	804	2,722	4,731														
	1904	21	1,287	.....	938	1,884	7,703		1904	138	1,230	.....	611	1,719	2,982														
Lumber and timber products.	1914	137	1,166	3,957	747	1,818	3,246	Brick and tile, terra-cotta, and fire-clay products.	1914	10	703	2,460	478	429	1,215														
	1909	45	1,621	6,808	863	2,887	5,021		1909	13	546	1,965	286	213	769														
	1904	43	1,503	.....	792	2,627	5,043		1904	8	252	.....	141	84	346														
Marble and stonework..	1914	27	327	1,171	214	268	750	Carriages and wagons and materials.	1914	30	289	347	219	271	696														
	1909	25	269	854	181	252	632		1909	33	267	175	182	142	462														
	1904	21	417	.....	297	373	1,001		1904	32	343	.....	203	189	549														
Mattresses and spring beds.	1914	10	84	200	50	181	306	Cars and general shop-construction and repairs by steam-railroad companies.	1914	9	2,877	7,838	2,362	2,297	4,958														
	1909	9	165	227	74	223	394		1909	6	1,372	1,040	843	1,077	2,056														
	1904	8	72	.....	31	138	212	Chemicals.....	1904	6	1,313	.....	757	823	1,681														
Millinery and lace goods	1914	9	293	31	105	203	443		1914	6	653	2,773	488	1,444	3,130														
	1909	11	428	59	120	294	547		1909	5	469	1,840	307	978	1,866														
	1904	9	264	.....	85	158	324		1904	5	506	.....	308	671	1,373														
Models and patterns, not including paper patterns.	1914	19	140	235	92	48	239	Clothing, men's, including shirts.	1914	68	3,590	646	1,606	4,516	9,546														
	1909	9	89	65	63	54	151		1909	93	2,745	346	1,096	3,203	5,953														
	1904	15	71	.....	43	12	88		1904	70	1,482	.....	642	1,366	2,979														
Paint and varnish.....	1914	25	417	2,229	294	2,784	4,517	Clothing, women's.....	1914	106	6,955	1,074	3,717	8,266	16,243														
	1909	24	408	1,356	215	2,486	3,880		1909	96	5,418	771	2,903	6,496	12,789														
	1904	23	270	.....	148	2,000	2,628		1904	78	3,394	.....	1,682	3,796	7,428														
Paper goods, not elsewhere specified.	1914	26	112	261	59	290	474	Confectionery.....	1914	21	990	1,307	388	2,311	3,890														
	1909	6	113	252	42	205	346		1909	16	803	679	253	1,553	2,852														
	1904	4	39	.....	12	56	106		1904	8	412	.....	106	558	1,715														
Patent medicines and compounds and druggists' preparations.	1914	37	228	308	116	705	1,365	Cooperage and wooden goods, not elsewhere specified.	1914	7	301	1,035	138	623	855														
	1909	50	202	404	90	497	1,230		1909	10	261	533	136	471	708														
	1904	37	365	.....	122	439	1,412		1904	9	167	.....	89	234	392														
Printing and publishing	1914	307	4,074	6,056	2,883	4,105	13,387	Copper, tin, and sheet-iron products.	1914	77	1,542	1,422	919	1,854	3,805														
	1909	280	3,866	4,671	2,480	3,349	11,519		1909	37	1,864	1,231	640	1,628	2,966														
	1904	264	3,997	.....	2,317	3,218	10,321		1904	19	405	.....	213	293	724														
Slaughtering and meat packing.	1914	47	1,126	4,928	766	21,567	23,245	Cutlery and tools, not elsewhere specified.	1914	12	1,592	4,031	952	331	3,684														
	1909	55	1,116	3,710	669	16,974	19,320		1909	15	1,444	3,246	759	666	2,395														
	1904	48	878	.....	522	11,762	13,510		1904	8	807	.....	389	452	1,224														
Stoves and hot-air furnaces, including gas and oil stoves.	1914	12	686	998	432	362	2,091	Electrical machinery, apparatus, and supplies.	1914	40	3,326	4,831	1,948	5,892	11,358														
	1909	15	872	1,086	485	1,013	2,325		1909	40	1,678	1,980	700	1,780	4,036														
	1904	11	614	.....	329	365	1,003		1904	30	1,235	.....	548	1,099	2,653														
Tobacco manufactures..	1914	160	2,087	170	958	1,797	4,121	Foundry and machine-shop products.	1914	267	22,301	39,107	15,186	20,869	50,951														
	1909	208	2,526	247	988	1,640	4,153		1909	231	17,915	24,204	10,485	15,324	37,443														
	1904	253	3,434	.....	1,267	2,245	5,748		1904	164	13,018	.....	7,101	10,017	24,033														
All other industries.....	1914	436	10,662	22,514	4,285	24,741	46,535	Furniture.....	1914	23	525	788	406	717	1,595														
	1909	397	9,768	17,898	5,132	20,311	40,422		1909	25	467	578	288	491	1,069														
	1904	350	10,510	.....	4,720	15,133	35,123		1904	26	543	.....	345	346	961														
<b>CLEVELAND—All industries.</b>	1914	2,345	103,317	277,066	67,351	198,493	352,418	Gas and electric fixtures, and lamps and reflectors.	1914	19	323	347	222	529	974														
	1909	2,148	84,728	199,898	48,053	154,915	271,961		1909	17	326	199	193	229	654														
	1904	1,616	64,041	.....	33,450	97,578	171,924		1904	67	289	.....	112	192	569														
Artificial stone products	1914	15	118	177	68	102	241	Hats and caps, other than felt, straw, and wool.	1914	8	122	17	63	168	303														
	1909	18	121	158	76	92	233		1909	9	97	11	43	102	199														
	1904	5	38	.....	22	22	60		1904	5	59	.....	34	56	151														
Automobiles, including bodies and parts.	1914	36	7,006	10,867	5,371	14,732	27,117	Hosiery and knit goods.	1914	16	1,341	523	672	2,334	4,051														
	1909	32	6,408	9,135	4,023	10,417	21,404		1909	13	1,234	407	485	1,813	2,957														
	1904	10	1,800	.....	1,027	2,030	4,624		1904	6	1,025	.....	348	1,061	1,957														
Blackening and cleansing and polishing preparations.	1914	18	46	97	26	162	375	Ice, manufactured.....	1914	6	166	3,567	138	156	570														
	1909	19	51	55	29	159	355		1909	5	111	3,266	85	103	368														
	1904	7	12	.....	6	17	44		1904	4	43	.....	33	45	195														
Boxes, cigar.....	1914	4	54	35	21	44	82	Iron and steel, steel works and rolling mills.	1914	15	8,149	70,844	6,050	24,552	33,389														
	1909	5	69	27	19	43	97		1909	14	7,538	60,675	5,150	28,039	38,463														
	1904	4	54	.....	16	33	66		1904	9	8,577	.....	4,956	22,772	32,279														
Boxes and cartons, paper.	1914	9	708	489	328	772	1,468	Jewelry.....	1914	21	105	71	79	74	232														
	1909	6	739	647	266	627	1,141		1909	15	102	34	66	62	208														
	1904	6	321	.....	112	199	421		1904	5	47	.....	30	40	105														
Brass and bronze products.	1914	28	789	879	534	1,418	2,491	Leather goods.....	1914	30	145	94	97	186	382														
	1909	28	801	872	518	1,362	2,568		1909	14	125	84	68	133	271														
	1904	19	561	.....	310	745	1,480		1904	12	120	.....	60	89	230														

1 Includes "boxes, wooden packing"; and "lumber, planing-mill products, not including planing mills connected with sawmills."

2 Includes "envelopes."

3 Includes "perfumery and cosmetics."

4 Includes "bookbinding and blank-book making"; "engraving, steel and copper plate, including plate printing"; and "lithographing."

5 Excludes statistics for two establishments, to avoid disclosure of individual operations.

6 Excludes statistics for one establishment, to avoid disclosure of individual operations.

7 Includes "stamped and enameled ware, not elsewhere specified;" and "tinware, not elsewhere specified."

8 Includes "automobile repairing;" "engines, steam, gas, and water;" "gas machines and gas and water meters;" "hardware;" "iron and steel, cast-iron pipe;" "plumbers' supplies, not elsewhere specified;" "pumps, power, other than steam;" "steam fittings and steam and hot-water heating apparatus;" and "structural ironwork, not made in steel works or rolling mills."

9 Includes "saddlery and harness;" and "trunks and valises."

## MANUFACTURES—OHIO.

TABLE 54.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horse-power.	Wages.	Cost of materials.	Value of products.	INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horse-power.	Wages.	Cost of materials.	Value of products.														
Expressed in thousands.								Expressed in thousands.																					
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.																													
<b>CLEVELAND—Con.</b>								<b>COLUMBUS—Con.</b>																					
Liquors, distilled.....	1914	6	5	39	\$4	\$10	\$27	Coffee and spice, roasting and grinding.	1914	4	21	57	\$14	\$224	\$302														
	1909	4	1	14	1	6	14		1909	3	45	65	19	329	604														
	1904	4	3	-----	1	3	13		1904	3	44	-----	22	395	695														
Liquors, malt.....	1914	12	1,056	6,554	805	1,858	6,528	Foundry and machine-shop products.	1914	7 59	2,477	4,272	1,688	3,153	6,959														
	1909	11	744	3,395	594	1,484	5,124		1909	58	3,012	4,148	1,841	3,465	7,744														
	1904	9	601	-----	503	1,108	3,986		1904	49	2,368	-----	1,550	3,393	7,008														
Lumber and timber products.	1914	1 50	1,501	5,280	1,016	3,053	4,916	Furniture and refrigerators.	1914	8	-----	686	207	401	653														
	1909	51	1,147	5,263	699	2,732	4,021		1909	8	374	553	189	405	747														
	1904	2 37	1,084	-----	622	2,516	3,820		1904	2 4	204	-----	91	230	405														
Marble and stone work..	1914	19	206	684	159	207	475	Gas fixtures.....	1914	4	134	88	51	116	204														
	1909	18	315	789	192	197	468		1909	9	334	263	141	371	770														
	1904	7	178	-----	116	106	297		1904	3	32	-----	16	28	62														
Mattresses and spring beds.	1914	7	171	398	102	248	485	Ice, manufactured.....	1914	6	159	2,425	105	71	309														
	1909	6	150	178	71	208	365		1909	5	158	1,784	91	68	253														
	1904	3	112	-----	47	140	239		1904	4	93	-----	42	34	128														
Millinery and lace goods.	1914	12	496	350	278	630	1,150	Leather goods.....	1914	8 13	145	134	90	276	487														
	1909	6	472	143	190	726	1,206		1909	11	128	127	74	353	560														
	1904	5	69	-----	20	58	117		1904	11	124	-----	74	223	433														
Models and patterns, not including paper patterns.	1914	24	166	252	135	59	279	Liquors, malt.....	1914	5	596	3,529	504	858	3,297														
	1909	21	190	213	123	51	251		1909	4	473	3,045	371	619	2,728														
	1904	15	101	-----	70	20	143		1904	5	455	-----	369	816	2,134														
Paint and varnish.....	1914	33	1,062	3,544	645	5,766	10,093	Lumber and timber products.	1914	9 21	358	1,910	246	613	1,088														
	1909	24	760	2,624	468	3,889	6,138		1909	27	434	1,808	264	758	1,240														
	1904	20	575	-----	304	2,625	3,700		1904	20	305	-----	220	451	799														
Patent medicines and compounds and druggists' preparations.	1914	5 52	228	677	119	640	2,140	Marble and stone work.	1914	7	42	75	42	55	135														
	1909	50	125	66	62	316	1,010		1909	6	70	445	47	75	109														
	1904	30	52	-----	21	132	426		1904	4	111	-----	71	78	188														
Photo-engraving.....	1914	5	67	31	79	23	196	Models and patterns, not including paper patterns.	1914	8	34	89	29	9	59														
	1909	3	58	23	50	36	144		1909	8	34	58	23	11	70														
	1914	4	66	-----	53	10	125		1904	5	12	-----	7	2	19														
Printing and publishing.	1914	4 272	4,002	5,154	3,439	4,155	13,986	Paint and varnish.....	1914	7	72	179	41	550	847														
	1909	245	3,104	3,328	2,009	2,780	9,635		1909	5	55	141	28	346	602														
	1904	6 134	2,291	-----	1,409	1,686	6,140		1904	2 3	38	-----	19	155	282														
Slaughtering and meat packing.	1914	6 39	1,400	3,229	956	22,303	24,737	Patent medicines and compounds and druggists' preparations.	1914	10 23	137	184	59	311	1,068														
	1909	35	1,076	2,570	599	15,399	17,192		1909	13	140	285	61	239	946														
	1904	19	978	-----	566	9,338	10,616		1904	6 9	163	-----	55	381	3,214														
Stoves and furnaces, including gas and oil stoves.	1914	27	2,911	2,981	1,871	4,261	8,621	Printing and publishing	1914	11 107	1,026	1,283	712	950	3,528														
	1909	20	1,843	1,599	1,155	2,286	4,977		1909	91	901	879	592	689	2,660														
	1904	17	1,527	-----	857	1,535	3,005		1904	76	847	-----	516	475	1,916														
Tobacco manufactures..	1914	233	1,549	42	775	1,093	2,666	Slaughtering and meat packing.	1914	12 7	204	606	121	2,984	3,211														
	1909	254	1,866	29	734	1,047	2,769		1909	6	130	365	101	1,964	2,354														
	1904	257	1,389	-----	581	646	1,916		1904	4	69	-----	49	737	852														
Wall plaster.....	1914	3	58	265	40	255	385	Stoves and furnaces, including gas and oil stoves.	1914	7	234	261	190	371	852														
	1909	3	56	270	32	123	205		1909	10	294	377	173	310	722														
	1904	3	45	-----	25	66	145		1904	10	255	-----	132	190	497														
All other industries.....	1914	432	22,111	90,133	13,140	54,266	85,165	Tobacco, cigars.....	1914	31	264	1	83	92	250														
	1909	384	19,221	64,422	10,312	43,711	69,429		1909	35	223	-----	81	155	436														
	1904	302	16,917	-----	8,054	28,641	46,015		1904	47	220	-----	70	107	349														
<b>COLUMBUS—All industries.</b>	1914	643	17,236	35,522	11,177	30,636	57,608	All other industries.....	1914	226	8,508	17,366	5,617	14,540	26,272														
	1909	586	16,428	35,780	8,892	25,204	49,032		1909	202	6,277	20,002	3,264	10,103	18,091														
	1904	459	14,350	-----	7,287	19,244	39,530		1904	151	4,733	-----	2,348	6,092	11,536														
Artificial stone products	1914	9	19	121	14	27	66	<b>DAYTON—All industries.</b>	1914	523	24,061	51,809	14,076	32,954	71,071														
	1909	5	25	38	17	23	57		1909	513	21,549	31,501	12,451	27,528	60,378														
	1904	3	21	-----	10	14	33		1904	431	17,093	-----	8,693	18,505	39,597														
Boots and shoes.....	1914	7	1,725	889	876	3,537	5,224	Boxes, cigar.....	1914	3	80	98	28	57	90														
	1909	8	2,479	845	1,076	3,224	5,436		1909	3	86	358	23	47	85														
	1904	8	2,306	-----	926	3,055	5,425		1904	3	105	-----	27	45	106														
Bread and other bakery products.	1914	75	545	1,106	351	1,153	2,119	Boxes and cartons, paper.	1914	5	518	408	196	460	863														
	1909	58	435	75	222	1,092	1,765		1909	5	540	376	196	486	932														
	1904	20	299	-----	143	618	997		1904	5	386	-----	114	379	743														
Carriages and wagons...	1914	9	208	261	137	345	648	Brass and bronze products.	1914	8	95	115	69	207	332														
	1909	14	407	477	217	605	1,078		1909	7	210	340	145	213	481														
	1904	20	1,151	-----	557	1,270	2,558		1904	2 4	189	-----	109	111	337														

<sup>1</sup> Includes "boxes, wooden packing;" "lumber, planing-mill products, not including planing mills connected with sawmills;" and "window and door screens."

<sup>2</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

<sup>3</sup> Includes "perfumery and cosmetics."

<sup>4</sup> Includes "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and "lithographing."

<sup>5</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>6</sup> Includes "sausage."

<sup>7</sup> Includes "automobile repairing;" "hardware;" "iron and steel, cast-iron pipe;" "plumbers' supplies, not elsewhere specified;" "pumps, power, other than steam;"

"steam fittings and steam and hot-water heating apparatus;" and "structural ironwork, not made in steel works or rolling mills."

<sup>8</sup> Includes "saddlery and harness" and "trunks and valises."

<sup>9</sup> Includes "boxes, wooden packing;" and "lumber, planing-mill products, not including planing mills connected with sawmills."

<sup>10</sup> Includes "perfumery and cosmetics."

<sup>11</sup> Includes "bookbinding and blank-book making" and "lithographing."

<sup>12</sup> Includes "sausage."

## MANUFACTURES—OHIO.

51

TABLE 54.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horse-power.	Wages.	Cost of materials.	Value of products.	INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horse-power.	Wages.	Cost of materials.	Value of products.
					Expressed in thousands.								Expressed in thousands.		
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
<b>DAYTON—Con.</b>								<b>TOLEDO—Con.</b>							
Bread and other bakery products.	1914	64	491	651	\$290	\$1,213	\$2,013	Carriages and wagons and materials.	1914	16	494	1,463	\$347	\$508	\$1,188
	1909	65	350	401	187	949	1,531		1909	16	514	1,283	257	609	1,317
	1904	47	262	.....	112	538	861		1904	21	825	.....	399	932	1,756
Carriages and wagons and materials.	1914	16	241	696	141	290	459	Cars and general shop construction and repairs by steam-railroad companies.	1914	6	814	1,254	596	534	1,202
	1909	17	374	697	203	347	802		1909	4	1,198	935	634	674	1,427
	1904	18	383	.....	167	254	566		1904	5	868	.....	465	832	1,367
Clothing, men's, including shirts.	1914	4	147	148	63	138	277	Clothing, women's.....	1914	13	892	200	515	1,410	2,434
	1909	4	196	125	71	209	354		1909	13	1,150	155	492	1,375	2,323
	1904	4	204	.....	66	167	315		1904	11	638	.....	251	804	1,448
Confectionery.....	1914	11	175	159	74	219	405	Confectionery.....	1914	12	184	290	81	507	778
	1909	11	142	50	51	196	339		1909	12	146	105	51	235	411
	1904	8	107	.....	33	90	189		1904	10	141	.....	34	135	262
Copper, tin, and sheet-iron work.	1914	11	72	51	43	81	178	Cooperage and wooden goods, not elsewhere specified.	1914	8	85	75	38	104	189
	1909	11	63	50	44	88	178		1909	10	116	145	52	106	195
	1904	6	71	.....	44	65	153		1904	10	30	.....	15	53	83
Foundry and machine-shop products.	1914	171	3,424	5,862	2,119	2,944	6,859	Copper, tin, and sheet-iron products.	1914	335	698	713	465	1,020	2,029
	1909	69	3,585	5,576	2,033	2,800	6,778		1909	37	547	265	282	649	1,303
	1904	50	3,223	.....	1,714	2,268	5,539		1904	20	180	.....	94	198	484
Furniture.....	1914	10	400	667	210	285	825	Electrical machinery, apparatus, and supplies.	1914	11	918	1,155	397	1,821	3,230
	1909	10	423	795	200	287	744		1909	7	416	248	168	289	932
	1904	6	427	.....	193	256	738		1904	4	98	.....	35	45	130
Lumber and timber products.	1914	11	576	1,799	416	1,151	1,899	Flour-mill and gristmill products.	1914	6	234	3,345	187	5,277	5,815
	1909	11	512	1,050	325	878	1,417		1909	7	204	3,510	140	4,931	5,062
	1904	11	458	.....	273	720	1,241		1904	8	195	.....	115	3,237	3,076
Marble and stone work..	1914	4	14	30	11	14	36	Foundry and machine-shop products.	1914	767	3,796	6,679	2,674	3,137	7,855
	1909	6	41	80	33	39	95		1909	75	3,191	6,931	1,905	3,161	7,024
	1904	3	27	.....	23	22	65		1904	50	2,895	.....	1,566	2,491	5,190
Models and patterns, not including paper patterns.	1914	7	37	100	26	8	50	Furniture.....	1914	16	374	740	231	299	734
	1909	5	31	44	20	5	35		1909	23	580	884	303	545	1,128
	1904	5	18	.....	7	5	22		1904	12	433	.....	220	338	660
Printing and publishing.	1914	450	680	1,045	459	560	1,774	Leather goods.....	1914	10	69	42	38	92	184
	1909	45	630	1,078	386	440	1,552		1909	4	88	36	35	78	139
	1904	40	521	.....	261	310	1,019		1904	3	88	.....	38	113	209
Slaughtering and meat packing.	1914	9	275	669	193	3,846	4,831	Liquors, malt.....	1914	4	396	2,541	330	724	2,475
	1909	10	245	484	145	2,636	3,171		1909	4	312	1,031	250	452	1,887
	1904	7	110	.....	55	1,144	1,310		1904	6	262	.....	222	499	1,610
Tobacco, cigars.....	1914	44	1,582	115	533	905	2,055	Lumber and timber products.	1914	921	486	2,141	333	1,054	1,747
	1909	56	1,428	52	487	831	1,893		1909	28	585	2,480	286	1,111	1,793
	1904	60	1,287	.....	425	576	1,455		1904	23	502	.....	260	1,260	1,784
Tools, not elsewhere specified.	1914	8	52	112	34	13	76	Marble and stone work..	1914	8	63	227	57	197	331
	1909	4	40	59	21	7	62		1909	6	62	142	43	108	217
	1904	3	19	.....	10	3	18		1904	7	77	.....	60	134	263
All other industries.....	1914	186	15,202	39,084	9,171	20,563	48,049	Models and patterns, not including paper patterns.	1914	6	16	33	15	4	29
	1909	174	12,653	19,286	7,881	17,070	39,929		1909	7	16	29	9	5	24
	1904	151	9,296	.....	5,060	11,552	24,920		1904	4	11	.....	6	5	17
<b>SPRINGFIELD—All industries.</b>	1914	253	7,868	13,113	5,328	13,704	27,722	Paints.....	1914	5	40	186	23	122	267
	1909	195	7,405	10,179	3,985	8,919	19,246		1909	5	34	150	20	158	252
	1904	157	6,258	.....	3,253	5,762	13,382		1904	5	32	.....	18	139	225
<b>TOLEDO.—All industries.</b>	1914	713	27,076	53,369	18,124	70,494	115,049	Patent medicines and compounds and druggists' preparations.	1914	1031	51	102	29	125	453
	1909	760	18,878	43,946	9,911	34,084	61,230		1909	51	76	154	36	149	540
	1904	597	15,697	.....	8,099	25,466	44,501		1904	20	44	.....	15	74	343
Boxes and cartons, paper.	1914	3	64	77	29	55	111	Printing and publishing.	1914	1188	889	1,095	670	858	2,991
	1909	5	97	78	26	58	103		1909	72	763	866	480	523	2,004
	1904	4	59	.....	14	43	76		1904	56	637	.....	360	414	1,451
Bread and other bakery products.	1914	76	579	541	370	1,253	2,307	Wall plaster.....	1914	4	24	95	15	60	110
	1909	88	468	314	260	959	1,598		1909	6	45	380	25	130	221
	1904	64	443	.....	205	724	1,268		1904	5	32	.....	20	81	140
Brick and tile, terracotta, and fire-clay products.	1914	5	193	558	140	103	321	All other industries.....	1914	262	15,717	29,817	10,544	51,230	78,269
	1909	8	172	675	80	35	177		1909	272	8,098	22,550	4,077	17,744	30,553
	1904	10	221	.....	117	48	259		1904	233	6,086	.....	3,570	12,867	21,800

<sup>1</sup> Includes "engines, steam, gas, and water;" "gas machines and gas and water meters;" "hardware;" "plumbers' supplies, not elsewhere specified;" "pumps, steam and other power;" "steam fittings and steam and hot-water heating apparatus;" and "structural ironwork, not made in steel works or rolling mills."

<sup>2</sup> Includes "boxes, wooden packing;" and "lumber, planing-mill products, not including planing mills connected with saw mills."

<sup>3</sup> Excludes statistics of one establishment to avoid disclosure of individual operations.

<sup>4</sup> Includes "bookbinding and blank-book making" and "lithographing."

<sup>5</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>6</sup> Includes "stamped ware, not elsewhere specified;" and "tinware, not elsewhere specified."

<sup>7</sup> Includes "automobile repairing;" "engines, steam, gas, and water;" "hardware;" "plumber's supplies, not elsewhere specified;" and "structural ironwork, not made in steel works, or rolling mills."

<sup>8</sup> Includes "saddlery and harness" and "trunks and valises."

<sup>9</sup> Includes "boxes, wooden packing;" "lumber, planing-mill products, not including planing mills connected with sawmills;" and "window and door screens."

<sup>10</sup> Includes "perfumery and cosmetics."

<sup>11</sup> Includes "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and "lithographing."

## MANUFACTURES—OHIO.

TABLE 54.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Expressed in thousands.			INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Expressed in thousands.		
					Wages.	Cost of mater- ials.	Value of prod- ucts.						Wages.	Cost of mater- ials.	Value of prod- ucts.
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
<b>YOUNGSTOWN— All industries.</b>	1914	201	15,861	196,665	\$12,349	\$69,077	\$92,111	<b>YOUNGSTOWN— Continued.</b>							
	1909	115	10,498	140,907	7,835	62,292	81,271	Lumber, planing-mill	1914	12	343	1,246	\$280	\$522	\$1,010
	1904	113	8,095	.....	5,460	35,183	46,853	products, not includ- ing planing mills con- nected with sawmills.	1909	8	199	615	135	654	953
Bread and other bakery	1914	43	130	115	83	316	620	Printing and publishing	1904	10	208	.....	137	431	793
products.	1909	22	65	23	38	133	249		1914	21	243	303	181	178	792
	1904	11	48	.....	30	86	153		1909	13	164	188	109	128	454
Foundry and machine- shop products.	1914	19	2,040	8,492	1,580	4,442	7,235	All other industries.....	1904	10	162	.....	121	69	284
	1909	15	1,153	2,674	800	2,702	4,865		1914	98	5,510	73,444	3,830	23,756	33,658
	1904	13	909	.....	566	1,020	2,079		1909	50	2,267	61,877	1,549	18,706	24,575
Iron and steel, steel works and rolling mills.	1914	8	7,595	113,065	6,395	39,863	48,796		1904	62	2,148	.....	1,256	10,577	13,836
	1909	7	6,650	75,530	5,204	39,969	50,175								
	1904	7	4,630	.....	3,350	23,000	29,738								
CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.															
<b>ALLIANCE.....</b>	1914	52	2,333	4,678	\$1,617	\$3,656	\$7,175	<b>MARIETTA.....</b>	1914	71	1,401	3,117	\$844	\$2,383	\$4,129
	1909	44	2,524	3,453	1,462	2,853	6,135		1909	66	1,288	2,742	594	1,787	3,215
	1904	44	1,868	7,327	1,345	2,825	5,021		1904	73	1,314	.....	610	1,366	2,599
<b>ASHTABULA.....</b>	1914	57	1,868	7,327	1,345	2,825	5,021	<b>MARION.....</b>	1914	66	2,577	5,575	1,512	2,562	6,385
	1909	44	1,471	2,379	814	2,084	3,459		1909	55	2,619	3,686	1,405	2,577	5,667
	1904	36	846	.....	456	996	1,895		1904	47	1,721	.....	865	1,352	3,228
<b>BELLAIRE.....</b>	1914	40	2,603	14,390	1,566	9,278	12,170	<b>MASSILLON.....</b>	1914	70	1,768	5,544	1,166	2,719	5,293
	1909	36	2,597	17,790	1,412	7,159	10,092		1909	56	1,934	4,730	1,127	2,290	4,788
<b>CAMBRIDGE.....</b>	1914	39	1,455	5,742	1,112	2,340	3,924		1904	52	1,995	.....	1,158	1,582	3,707
	1909	32	1,230	5,055	919	2,885	4,291	<b>MIDDLETOWN.....</b>	1914	63	4,003	35,328	2,888	10,580	21,787
<b>CHILlicothe.....</b>	1914	46	1,557	4,765	852	2,571	4,083		1909	41	2,576	9,304	1,389	7,950	16,517
	1909	57	1,674	3,558	707	3,038	4,345	<b>NEWARK.....</b>	1914	79	4,583	8,071	2,969	3,574	9,277
	1904	64	1,553	.....	570	1,928	3,147		1909	72	3,913	8,630	1,958	3,982	7,851
<b>EAST LIVERPOOL.....</b>	1914	80	4,830	6,051	2,935	2,842	7,093		1904	78	3,627	.....	2,130	2,433	5,613
	1909	82	4,873	5,528	2,764	2,521	6,629	<b>NORWOOD.....</b>	1914	58	5,808	9,865	3,614	7,217	16,724
	1904	81	5,228	.....	2,703	2,107	6,437		1909	49	3,907	6,381	2,081	4,021	9,684
<b>ELYRIA.....</b>	1914	63	2,735	10,814	1,759	5,016	8,792	<b>PIQUA.....</b>	1914	78	2,777	5,721	1,508	4,554	7,988
	1909	58	2,673	9,058	1,573	4,495	8,065		1909	82	2,683	5,062	1,292	3,852	6,931
<b>FINDLAY.....</b>	1914	78	1,737	3,561	778	2,791	4,663		1904	76	2,044	.....	947	1,908	4,036
	1909	74	1,376	2,574	574	2,094	3,487	<b>PORTSMOUTH.....</b>	1914	76	3,597	5,099	1,751	4,079	7,682
	1904	71	1,343	.....	625	1,579	2,925		1909	75	3,728	4,028	1,459	3,894	7,277
<b>HAMILTON.....</b>	1914	129	6,043	16,767	3,565	9,015	16,877		1904	81	4,072	.....	1,479	3,520	6,045
	1909	125	6,895	22,563	3,793	9,640	18,184	<b>SANDUSKY.....</b>	1914	107	2,727	7,415	1,686	4,059	8,285
	1904	113	6,107	.....	3,321	6,384	13,811		1909	91	2,118	4,856	1,006	2,835	5,947
<b>IRONTON.....</b>	1914	59	1,420	15,147	721	3,294	4,666		1904	93	2,323	.....	1,028	2,136	4,879
	1909	63	1,920	15,548	885	4,994	7,118	<b>STEUBENVILLE.....</b>	1914	60	4,506	36,731	3,430	11,432	16,959
	1904	57	1,800	.....	824	3,423	4,755		1909	55	4,267	37,748	3,203	14,443	21,187
<b>LANCASTER.....</b>	1914	53	1,583	2,874	790	3,287	4,603		1904	72	4,184	.....	2,328	8,243	12,370
	1909	42	1,532	2,453	677	3,051	4,074	<b>TIFFIN.....</b>	1914	76	2,177	4,464	1,410	2,392	4,996
<b>LIMA.....</b>	1914	97	4,876	7,518	3,178	6,369	11,599		1909	75	1,632	3,257	828	1,252	3,254
	1909	85	3,607	3,264	2,024	3,869	7,754		1904	87	1,645	.....	664	1,000	2,435
	1904	77	2,733	.....	1,322	2,255	4,828	<b>WARREN.....</b>	1914	82	2,862	5,747	1,933	6,355	10,400
<b>LORAIN.....</b>	1914	66	6,436	211,182	4,660	17,929	29,110		1909	68	1,798	5,530	911	3,004	5,988
	1909	57	6,697	208,992	4,788	24,222	38,987	<b>ZANESVILLE.....</b>	1914	97	3,035	7,064	1,685	5,246	8,300
	1904	43	3,102	.....	2,832	9,708	14,491		1909	108	2,932	7,783	1,582	5,056	8,020
<b>MANSFIELD.....</b>	1914	103	3,398	6,637	2,029	4,772	10,282		1904	99	3,098	.....	1,590	3,291	6,347
	1909	121	3,204	5,077	1,472	4,356	8,173								
	1904	109	3,021	.....	1,309	3,523	7,354								

<sup>1</sup> Includes "structural ironwork, not made in steel works or rolling mills."

<sup>2</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>3</sup> Figures do not agree with those published, because it was necessary to revise them in order to include data only for those establishments located within the corporate limits of the city.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.			
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.		
								Maximum month.	Minimum month.							
1 All industries.....	15,658	606,807	13,624	18,958	46,357	17,433	510,435	Mh 534,537	De 476,841	(*)	(*)	(*)	(*)	(*)	\$1,677,551,633	
2 Agricultural implements.....	59	6,543	27	194	724	134	5,464	Fe 6,793	No 4,132	5,621	5,589	23	9	.....	31,524,254	
3 Aluminum ware.....	8	242	1	15	5	5	216	De 282	Ja 172	283	265	18	.....	.....	519,037	
4 Artificial limbs.....	16	50	11	5	8	22	22	Ap 26	Au 20	24	23	1	.....	.....	35,291	
5 Artificial stone products.....	403	1,665	499	89	37	26	954	Je 1,276	Fe 575	1,119	1,116	3	.....	.....	1,759,146	
6 Automobile bodies and parts.....	63	4,635	31	116	282	78	4,128	Oc 4,670	Ja 3,319	4,125	3,963	160	2	.....	7,151,733	
7 Automobiles.....	39	16,521	3	270	1,226	398	14,624	De 16,751	Jy 12,990	17,155	16,864	280	11	.....	60,002,615	
8 Automobile repairing.....	85	346	97	18	5	11	215	Jy 187	Ja 187	234	233	1	.....	.....	392,638	
9 Repair work only.....	81	338	92	18	5	11	212	Jy 223	Ja 185	230	229	1	.....	.....	386,506	
10 Vulcanizing.....	4	8	5	.....	.....	.....	3	Jy 4	De 4	4	4	.....	.....	.....	6,132	
11 Awnings, tents, and sails.....	38	799	23	45	80	36	615	My 842	No 453	576	262	299	1	14	1,244,762	
12 Bags, paper.....	9	741	.....	33	42	20	646	Oc 832	Jy 621	624	303	315	6	.....	1,648,306	
13 Baking powders and yeast.....	8	72	5	7	13	5	42	My 48	Se 37	43	16	27	.....	.....	102,440	
14 Baskets, and rattan and willow ware.....	34	689	42	21	5	4	617	Jy 705	De 534	659	469	190	.....	.....	317,885	
15 Belting, leather.....	10	125	.....	20	17	10	73	Ja 88	No 71	79	78	1	.....	.....	607,349	
16 Billiard tables and materials.....	5	49	4	3	5	1	36	Mh 50	Jy 24	50	48	2	.....	.....	72,073	
17 Blacking, stains, and dressings.....	12	58	17	6	10	5	20	Mh 22	Je 19	22	16	6	.....	.....	68,206	
18 Bluing.....	4	9	4	.....	.....	.....	5	Je 7	Ja 3	5	5	.....	.....	.....	19,980	
19 Bookbinding and blank-book making.....	60	1,268	66	44	84	97	977	Fe 1,030	De 942	946	567	372	3	4	2,044,094	
20 Boots and shoes.....	62	15,995	18	318	717	481	14,461	Ap 16,147	Ap 11,432	15,016	8,756	6,129	77	54	21,542,379	
21 Boxes, cigar.....	26	492	30	10	6	3	443	No 465	Au 423	449	172	274	1	2	410,176	
22 Boxes, fancy and paper.....	49	2,799	31	127	119	66	2,456	Mh 2,683	De 2,281	2,327	816	1,501	4	6	3,077,700	
23 Boxes, wooden packing.....	94	1,809	88	55	50	19	1,397	Je 1,461	De 1,331	1,385	1,321	54	10	.....	2,095,438	
24 Brass, bronze, and copper products.....	84	2,768	59	146	203	83	2,277	Ap 2,573	No 2,096	2,115	2,086	29	.....	.....	5,975,522	
25 Brass, bronze, and copper.....	79	2,391	57	135	180	76	1,943	Ap 2,158	No 1,757	1,786	1,766	20	.....	.....	5,449,987	
26 Aluminum castings.....	5	377	2	11	23	7	334	Ap 415	Au 252	329	320	9	.....	.....	525,535	
27 Bread and bakery products.....	1,634	10,980	1,833	233	850	394	7,665	Se 7,846	Ja 7,370	7,836	6,202	1,604	25	5	15,354,756	
28 Biscuits and crackers.....	11	1,417	1	30	197	73	1,116	Jy 1,160	My 1,079	1,084	589	495	.....	.....	2,877,107	
29 All other.....	1,623	9,563	1,837	230	653	321	6,549	Se 6,711	Ja 6,263	6,752	5,613	1,109	25	5	12,477,640	
30 Brick and tile, terra-cotta, and fire-clay products.....	450	17,826	363	568	476	181	16,238	Jy 18,127	Fe 13,824	17,581	16,998	564	19	.....	42,356,256	
31 Building brick.....	166	7,388	96	279	143	61	6,809	Jy 7,904	Fe 4,948	7,448	7,433	5	10	.....	17,589,171	
32 Sewer pipe, drain tile, etc.....	227	4,922	261	125	134	44	4,358	Jy 5,045	Ja 3,554	5,122	5,112	2	8	.....	11,832,929	
33 Fire brick, stove lining, etc.....	26	1,720	4	62	49	13	1,592	Ap 1,725	De 1,401	1,495	1,490	4	1	.....	4,071,214	
34 Tile, other than drain.....	7	1,853	2	40	97	52	1,667	Ja 1,750	Au 1,583	1,671	1,118	553	.....	.....	3,903,372	
35 Architectural and fireproofing terra cotta.....	24	1,938	.....	62	53	11	1,812	Se 1,915	De 1,681	1,845	1,845	.....	.....	.....	4,959,570	
36 Brooms, from broom corn.....	77	485	85	18	29	8	345	Ja 361	Jy 318	368	326	42	.....	.....	431,429	
37 Brushes.....	16	835	9	37	61	51	677	Mh 730	Jy 635	664	518	146	.....	.....	1,310,729	
38 Butter.....	143	1,727	236	118	133	141	1,099	Jy 1,225	Fe 1,004	1,075	1,031	44	.....	.....	3,736,633	
39 Buttons.....	9	172	7	6	1	1	157	Ja 212	Au 42	201	175	26	.....	.....	96,541	
40 Canning and preserving, fruits and vegetables.....	96	1,936	76	88	85	33	1,654	Se 6,385	Fe 305	6,005	3,579	2,387	24	15	4,234,478	
41 Carpets, rag.....	39	203	42	9	7	4	141	My 187	Ja 106	143	84	59	.....	.....	112,382	
42 Carriage and wagon materials.....	64	2,889	27	121	99	70	2,572	Ap 2,977	No 2,257	2,444	2,295	143	4	2	6,529,254	
43 Carriages and sleds, children's.....	7	1,375	1	29	46	32	1,267	My 1,402	De 1,019	1,129	1,062	64	2	1	1,828,004	
44 Carriages and wagons.....	277	4,410	312	239	305	129	3,425	Ap 3,794	No 2,963	3,286	3,199	84	3	.....	11,199,573	
45 Carriages and wagons.....	249	4,216	274	234	297	127	3,284	Ap 3,648	No 2,832	3,145	3,058	84	3	.....	10,998,754	
46 Repair work only.....	31	194	38	5	8	2	141	Jy 150	No 131	141	141	.....	.....	.....	200,819	
47 Cars and general shop construction and repairs by electric-railroad companies.....	48	1,963	.....	63	20	1	1,879	Ja 1,921	De 1,780	1,789	1,763	26	.....	.....	4,066,813	
48 Cars and general shop construction and repairs by steam-railroad companies.....	88	23,240	.....	334	1,238	29	21,639	Se 22,637	Je 20,207	21,105	21,081	19	5	.....	16,912,157	
49 Cars, electric-railroad, not including operations of railroad companies.....	4	1,013	.....	48	42	7	916	Au 1,077	De 679	969	966	3	.....	.....	3,017,199	
50 Cars, steam-railroad, not including operations of railroad companies.....	5	3,085	.....	51	142	7	2,885	Ja 3,915	De 2,008	2,983	2,978	5	.....	.....	7,080,427	
51 Cement.....	7	904	.....	17	28	10	849	Se 929	Ja 717	857	857	.....	.....	.....	3,970,921	
52 Charcoal.....	7	27	11	2	.....	.....	14	Se 17	De 7	17	17	.....	.....	.....	11,894	
53 Cheese.....	129	224	118	7	2	.....	97	Je 160	De 34	143	142	1	.....	.....	230,821	
54 Chemicals.....	29	2,387	7	102	203	58	2,017	Ja 2,158	Au 1,896	1,996	1,962	34	.....	.....	13,847,986	
55 China decorating, not including that done in potteries.....	5	30	18	.....	.....	.....	12	Oc 18	Ja 18	18	18	14	.....	.....	25,310	
56 Cleansing and polishing preparations.....	42	231	39	27	56	25	84	Ap 101	Au 70	82	57	25	.....	.....	257,866	
57 Cleansing preparations.....	32	173	33	19	42	18	66	Ap 79	Au 55	66	45	21	.....	.....	163,679	
58 Polishing preparations.....	10	53	6	14	7	.....	18	Mh 24	Au 15	16	12	4	.....	.....	94,187	
59 Cloth, sponging and refinishing.....	7	65	11	.....	1	2	51	Jy 4	De 45	48	48	.....	.....	.....	22,956	
60 Clothing, men's.....	224	10,208	263	174	756	324	8,691	Ap 9,172	De 8,175	8,839	3,050	5,732	12	45	13,205,410	
61 Regular factories.....	102	8,055	129	154	745	315	6,712	Mh 7,122	De 6,283	6,738	2,532	4,193	6	7	12,971,340	
62 Men's and youths'.....	96	7,619	118	152	729	302	6,818	Mh 6,720	De 5,861	6,310	2,433	3,874	6	7	12,616,201	
63 Boys'.....	6	436	11	2	16	13	394	Se 408	Ja 363	428	49	379	.....	.....	355,139	
64 Contract work.....	122	2,153	134	20	11	9	1,979	Ap 2,104	Ja 1,866	2,101	513	1,539	6	38	234,070	
65 Men's and youths'.....	116	2,071	126	20	11	9	1,905	Oc 1,991	Ja 1,785	2,027	501	1,432	6	38	228,115	
66 Boys'.....	6	82	8	.....	.....	.....	74	Mh 83	Oc 64	74	17	57	.....	.....	5,955	
67 Clothing, men's, buttonholes.....	10	98	13	2	.....	2	81	Fe 84	De 75	75	14	61	.....	.....	11,113	

\* Owned power only.

\* Includes rented power, other than electric.



## MANUFACTURES—OHIO.

55

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

## THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$44,539,229	\$60,725,607	\$317,923,813	\$5,437,438	\$6,193,463	\$31,240,400	\$961,446,203	\$50,335,812	\$1,782,808,279	\$762,026,264	2,002,780	1,541,212	163,611	14,443	283,514	539,486	1
497,852	816,868	3,826,047	3,981	17,995	164,932	7,584,246	225,539	17,484,615	9,674,830	11,677	7,796	2,147	15	1,719	5,716	2
41,902	7,414	121,694		520	2,841	233,648	11,211	515,346	270,487	592		260		332	117	3
5,725	7,062	16,080		689	5,748	318	16,279	104,391	87,623	14		4		10	13	4
82,476	33,273	534,680	23,854	16,676	11,796	735,661	27,662	1,946,139	1,182,816	2,949	1,136	1,344		469	50	5
287,830	361,374	1,925,174	5,471	61,667	83,132	4,292,875	166,300	9,556,097	5,096,922	10,972	2,216	346		8,410	713	6
1,058,020	1,695,265	11,485,765	15,262	26,820	324,700	50,304,905	566,417	76,154,488	25,283,166	19,277	6,952	1,356		10,969	3,857	7
20,300	6,822	151,557	1,318	23,868	3,066	113,870	7,747	471,360	349,743	548	98	322		128	20	8
20,300	6,822	149,547	1,318	22,980	3,040	112,541	7,422	456,546	336,583	539	98	322		119	20	9
		2,010		888	26	1,329	325	14,814	13,160	9				9		10
91,782	118,320	299,042		20,530	7,848	1,261,152	8,984	2,130,707	890,571	348		44		304		11
96,916	60,961	304,953	938	30,700	14,468	1,814,213	17,066	2,893,011	1,061,732	853	550	110		193	414	12
				4,635	1,550	246,754	1,520	415,869	167,595	227	60	125		42	57	13
18,474	36,694	21,527		2,396	1,992	137,852	6,558	481,083	336,673	1,148	1,091	55		2		14
21,099	2,903	222,839	2,000	128	5,941	539,593	3,122	729,572	186,857	216	60		55	101		15
45,303	24,790	50,680		200	2,520	847	511	113,918	45,446	120	110			10	12	16
11,200	4,664	18,780		2,760	870	88,673	960	178,545	88,912	23	4	5		14		17
10,490	22,187	15,276														

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.				Total.	16 and over.		Under 16.				
					Male.	Female.	Average number.	Number, 15th day of—				Male.	Female.	Male.	Female.			
								Maximum month.	Minimum month.									
1 Clothing, women's.....	170	11,283	167	240	791	310	9,775	Mh 10,740	De 7,878	9,630	3,404	6,215	11			89,559,029		
2 Regular factories.....	132	11,007	125	237	790	304	9,551	Mh 10,467	De 7,805	9,324	3,329	5,984	11			9,496,988		
3 Suits, skirts, and cloaks.....	68	8,359	82	150	648	217	7,262	Au 8,053	De 5,692	7,002	3,031	3,968	3			7,569,103		
4 Shirt waists and dresses, except house dresses.	24	1,485	16	42	99	48	1,280	Fe 1,439	Je 1,106	1,343	199	1,139	5			827,493		
5 Undergarments and petticoats.	11	548	6	16	19	17	490	Ap 533	No 428	474	49	425				643,787		
6 Wrappers and house dresses.	14	366	8	18	11	11	318	Se 353	Jy 287	303	28	272	3			257,156		
7 All other.....	15	249	13	11	13	11	201	Oc 334	Ja 166	202	22	180				199,459		
8 Contract work.....	38	276	42	3	1	6	224	Au 315	De 73	306	75	231				62,031		
9 Suits, skirts, and cloaks.....	29	185	34				151	Au 217	De 39	222	62	160				17,260		
10 Wrappers, house dresses, and all other.	9	91	8	3	1	6	73	Se 105	De 34	84	13	71				44,771		
11 Coffee and spices, roasting and grinding.	35	1,406	17	71	409	87	822	Ap 890	De 734	785	430	336	1	18		6,577,686		
12 Coffins, burial cases, and undertakers' goods.	19	1,461	6	58	110	35	1,252	Ja 1,328	No 1,165	1,201	980	221				3,781,335		
13 Coke, not including gas-house coke.	5	513		11	10	3	489	Ap 692	No 337	410	410					2,943,569		
14 Condensed milk.....	14	330	2	16	21	7	284	Je 334	No 257	263	223	37	3			1,565,791		
15 Confectionery and ice cream.	292	5,120	289	215	415	236	3,965	Oc 4,937	Fe 3,497	4,395	1,984	2,383	14	14		8,144,707		
16 Confectionery and chewing gum.	132	3,944	111	163	345	176	3,149	Oc 4,178	Jy 2,451	3,600	1,270	2,304	12	14		5,095,543		
17 Ice cream.....	160	1,176	178	52	70	60	816	Je 1,101	Fe 611	795	714	79	2			3,048,164		
18 Cooperage.....	79	1,560	61	68	33	23	1,375	Mh 1,472	Jy 1,272	1,294	1,279	3	12			2,503,414		
19 Hogsheds and barrels.....	68	1,261	51	54	33	20	1,103	Mh 1,192	De 1,006	1,022	1,008	2	12			2,080,534		
20 All other.....	11	299	10	14		3	272	Ja 306	Jy 236	272	271	1				410,880		
21 Copper, tin, and sheet-iron work.	236	3,064	236	190	173	130	2,335	Se 2,474	De 2,176	2,309	2,221	80	7	1		5,450,447		
22 Cordials and flavoring sirups.	8	179	2	13	42	12	110	Je 278	No 76	91	56	34	1			450,391		
23 Corsets.....	4	39	4	1	1	2	31	My 39	De 21	23	1	22				31,190		
24 Cutlery and edge tools.....	19	1,146	7	40	77	50	972	Mh 1,085	De 854	889	800	88	1			1,357,957		
25 Table cutlery.....	3	30	1	1	1	1	26	Ja 31	Oc 22	26	23	3				1,40,849		
26 Razors.....	3	116	3	7	8	2	96	Mh 125	Au 69	93	81	12				215,838		
27 Axes, hatchets, scissors, pocket knives, augurs, etc.	13	1,000	3	32	68	47	850	Mh 932	De 735	770	696	73	1			1,036,170		
28 Dairymen's, poultry men's, and apiarists' supplies.	18	525	8	27	24	24	442	Je 490	Se 395	459	407	52				1,221,391		
29 Druggists' preparations.....	26	446	25	34	97	31	259	Je 271	No 242	246	141	103	2			963,851		
30 Dyeing and finishing textiles.....	5	404	1	8	11	2	382	Ja 450	Se 259	428	387	29	12			1,451,879		
31 Electrical machinery, apparatus, and supplies.	119	15,226	46	478	1,336	671	12,695	Ja 13,819	De 11,888	12,196	9,604	2,684	7	1		36,495,810		
32 Electroplating.....	36	315	47	20	9	9	230	Ap 246	No 218	235	228	5	2			211,797		
33 Enameling.....	6	176	3	6	1	4	162	Jy 178	No 137	155	119	36				301,623		
34 Engines, steam, gas, and water.....	47	4,647	14	116	279	1,276	2,962	Ap 3,126	De 2,621	2,597	2,585	7	5			12,681,980		
35 Engraving and diesinking.....	26	117	29	3		1	84	De 90	Je 79	90	72	17		1		58,104		
36 Engraving, steel and copper plate, including plate printing.	10	153	8	9	12	6	118	Je 131	Ja 112	118	86	25	4	3		69,023		
37 Engraving, wood.....	4	7	5				2	Ja 3	Jy 0	2	2					1,799		
38 Envelopes.....	6	844		23	15	16	790	Ja 880	Se 728	811	326	485				1,614,965		
39 Explosives.....	11	369		25	25	8	311	My 321	De 295	295	294	1				2,265,848		
40 Fancy articles, not elsewhere specified.	14	440	10	14	74	18	324	De 347	Ap 302	341	240	100	1			1,235,452		
41 Fertilizers.....	24	1,296	5	68	184	34	1,005	Se 1,647	Oc 771	1,009	1,003	6				8,531,660		
42 Files.....	8	196	5	8	3	2	178	Mh 189	No 154	176	166	10				196,710		
43 Flags and banners.....	6	177	11	9	4	2	151	Je 161	Se 147	151	73	78				225,878		
44 Flavoring extracts.....	34	363	31	16	59	148	109	Je 122	No 90	105	55	50				505,148		
45 Flour-mill and gristmill products.....	649	3,876	858	275	259	121	2,363	Au 2,425	Je 2,299	2,403	2,382	18	3			18,841,102		
46 Food preparations, not elsewhere specified.	76	2,134	56	68	390	97	1,523	Se 1,874	Fe 1,361	1,601	1,239	361	1			11,719,674		
47 Foundry and machine-shop products.	992	60,372	582	2,175	4,742	1,320	51,553	Mh 56,015	No 46,066	49,227	48,675	483	66	3		159,568,026		
48 Boiler shops.....	22	1,503	15	49	196	36	1,207	Mh 1,458	No 959	1,071	1,071					9,126,323		
49 Foundries.....	111	12,403	37	324	568	128	11,346	Mh 12,116	No 10,633	11,424	11,274	114	36			17,815,593		
50 Machine shops.....	859	46,466	530	1,802	3,978	1,156	39,000	Mh 42,441	No 34,674	36,732	36,330	369	30	3		133,126,110		
51 Foundry supplies.....	15	195	3	19	35	18	120	Je 137	De 107	119	119					529,163		
52 Fur goods.....	25	186	26	8	9	7	136	No 216	Ap 69	195	69					321,954		
53 Furnishing goods, men's.....	40	2,548	28	49	66	37	2,368	No 2,593	My 2,263	2,535	335	2,164	13	23		1,833,882		
54 Furniture.....	209	9,079	172	393	522	242	7,750	Mh 8,459	Jy 7,091	7,352	6,950	325	75	2		17,156,275		
55 Wood, and rattan, and willow.....	149	5,387	120	228	180	69	4,760	Mh 5,271	De 4,474	4,683	4,498	112	72	1		9,305,975		
56 Metal.....	18	1,388	22	52	226	84	1,004	My 1,137	De 772	773	769	2	1	1		3,360,076		
57 Store and office furniture.....	42	2,304	30	113	116	59	1,896	Fe 2,097	De 1,880	1,896	1,683	211	2			4,490,224		
58 Gas and electric fixtures.....	38	1,106	23	45	93	40	905	Oc 1,123	Jy 785	1,007	570	436	1			1,490,413		
59 Gas fixtures.....	19	613	10	18	34	17	534	Oc 737	Jy 432	635	214	421				790,062		
60 All other, including electric fixtures.	19	493	13	27	59	23	371	No 391	Au 344	372	356	15	1			700,351		
61 Gas, illuminating and heating.....	25	512	2	38	61	13	398	My 427	Ja 362	427	425	1	1			8,570,222		
62 Gas machines and gas and water meters.	12	250	6	15	29	13	187	Ja 200	De 169	187	175	12				650,193		

1 Owned power only.

2 Includes rented power, other than electric.

# MANUFACTURES—OHIO.

57

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$767,347	\$1,424,193	\$5,136,614	\$311,154	\$281,359	\$61,377	\$12,008,712	\$81,127	\$22,881,753	\$10,791,914	1,719	30	351	1,338	56	1
765,237	1,421,761	5,038,880	311,154	278,324	61,098	11,997,755	78,144	22,687,391	10,611,492	1,657	30	351	1,276	56	2
590,806	1,194,014	4,085,741	311,082	210,596	47,893	9,385,756	54,547	18,070,697	8,630,394	1,060	30	140	890	3	3
110,010	148,949	590,127	72	51,777	4,991	1,289,451	12,839	2,461,584	1,159,294	231	.....	.....	231	4	4
31,260	35,210	186,884	.....	3,620	5,592	748,601	4,657	1,079,745	326,487	241	.....	207	34	56	5
20,081	23,776	114,117	.....	7,648	1,125	342,348	3,678	564,570	218,544	75	.....	.....	75	6	6
13,080	19,812	62,011	.....	4,683	1,497	231,599	2,423	510,795	276,773	50	.....	4	46	7	7
2,110	2,432	97,734	.....	3,035	279	10,957	2,933	194,362	180,422	62	.....	.....	62	8	8
.....	.....	68,524	.....	2,015	206	992	2,305	97,993	94,696	40	.....	.....	40	9	9
2,110	2,432	29,210	.....	1,020	73	9,965	678	96,369	85,726	22	.....	.....	22	10	10
207,101	613,391	385,217	1,539	39,981	44,959	10,136,827	47,557	13,312,493	3,128,109	2,062	367	301	1,394	385	11
67,836	208,143	701,649	475	6,027	71,052	1,258,794	34,942	2,966,388	1,672,652	2,268	1,535	470	75	1,662	12
29,902	13,998	352,349	.....	.....	9,835	364,977	1,241,668	2,156,814	550,169	2,325	2,325	.....	.....	3,844	13
42,681	22,824	157,662	.....	.....	12,826	2,453,443	51,128	3,211,922	707,351	702	.....	16	.....	386	14
421,284	514,791	1,784,277	2,307	169,856	66,042	8,199,052	163,588	14,341,668	5,979,028	8,332	2,662	2,678	2	2,990	15
341,082	425,242	1,253,943	141	49,634	49,634	5,985,179	95,530	10,133,002	4,053,093	4,200	1,707	375	.....	2,118	16
80,202	89,549	530,334	2,166	39,971	16,408	2,213,873	68,258	4,208,066	1,925,935	4,132	955	2,303	2	872	17
103,552	41,093	749,573	225	14,595	25,732	2,386,303	40,183	3,691,969	1,285,483	3,622	3,141	230	.....	251	18
83,230	39,519	607,440	225	11,745	22,266	2,006,921	38,353	3,115,009	1,070,065	2,902	2,501	160	.....	241	19
20,322	1,574	142,133	.....	2,849	3,466	379,712	1,830	576,960	195,418	720	640	70	.....	94	20
343,123	310,675	1,586,515	33,527	67,452	41,903	6,476,621	52,057	10,702,747	4,174,069	2,690	492	1,298	.....	900	21
20,480	57,435	45,857	.....	11,267	7,065	532,352	3,175	890,559	354,832	96	35	.....	.....	61	22
2,850	1,837	9,509	.....	2,270	97	8,413	441	32,519	23,665	6	.....	.....	.....	6	23
89,174	124,285	567,792	425	4,176	12,471	395,401	41,741	1,423,701	986,559	2,715	1,030	639	.....	1,046	24
1,200	1,828	13,655	.....	101	362	6,228	76	25,986	18,974	76	.....	71	.....	5	25
18,138	14,908	49,926	.....	540	1,682	30,772	2,774	131,346	97,800	203	150	45	.....	8	26
69,836	107,549	504,211	425	3,535	10,427	358,401	38,183	1,266,369	869,785	2,436	880	523	.....	1,033	27
40,564	26,440	233,021	100	2,855	9,921	712,785	8,784	1,277,115	555,546	1,002	770	99	.....	133	28
59,125	155,214	138,916	.....	10,891	11,230	528,449	10,883	1,291,403	752,071	386	127	.....	.....	259	29
22,538	13,047	190,927	.....	3,250	6,832	392,477	51,108	705,618	282,033	4,100	4,080	.....	.....	20	30
1,167,747	2,028,604	7,409,090	4,056	93,582	284,801	16,905,997	570,251	36,120,978	18,638,730	17,771	5,161	3,685	.....	8,925	31
29,106	11,098	160,420	65	15,574	1,944	68,746	11,685	374,971	294,540	646	.....	344	.....	302	32
19,300	4,180	92,188	3,998	4,240	966	79,921	21,061	276,716	175,734	150	15	20	.....	115	33
263,901	409,551	1,982,543	10,951	10,243	87,286	2,704,215	132,989	6,861,351	4,024,147	9,617	3,045	4,130	447	1,995	34
3,140	480	37,803	4,000	67,017	178	18,328	994	132,073	112,751	46	.....	4	.....	42	35
18,557	9,600	73,453	100	6,231	242	27,186	2,233	175,240	145,821	37	.....	.....	.....	37	36
.....	.....	1,076	.....	320	5	206	3	5,380	5,171	.....	.....	.....	.....	.....	37
98,008	23,990	393,172	8,450	21,359	10,715	1,874,521	16,678	2,811,649	920,450	667	94	.....	142	431	38
76,215	40,928	188,050	5,485	1,685	20,292	933,258	38,846	1,439,009	466,905	5,646	2,413	40	500	2,693	39
42,840	123,941	158,609	2,588	8,214	7,346	321,157	6,024	957,742	630,561	.....	.....	65	3	217	40
71,857	287,974	590,307	8,477	39,544	4,534,802	91,892	7,245,908	2,619,304	4,739	3,365	265	.....	1,109	2,397	41
12,295	8,853	83,862	.....	4,002	1,150	52,843	7,679	188,513	127,991	614	395	150	.....	69	42
20,480	3,600	77,240	.....	2,850	1,600	158,253	1,799	278,231	138,179	213	150	25	35	3	43
23,520	55,315	47,189	272	9,780	4,142	412,537	4,304	908,011	491,170	183	85	14	.....	84	44
411,545	326,794	1,505,972	7,939	24,405	138,319	38,569,587	387,799	45,171,200	6,213,814	53,524	30,333	11,831	7,641	3,719	45
212,465	498,902	827,137	5,819	10,431	57,144	19,894,156	140,601	27,346,187	7,311,430	5,709	4,773	609	.....	3,257	46
5,496,728	6,428,451	34,235,583	283,786	446,302	1,243,506	47,742,035	2,602,198	122,816,681	72,472,448	106,890	51,127	16,791	370	38,602	47
188,698	302,819	772,495	4,034	7,244	54,661	2,319,463	45,140	4,152,436	1,787,833	2,680	2,564	.....	.....	116	48
753,566	699,406	7,420,049	22,067	36,888	163,438	5,852,195	779,272	18,215,108	11,583,641	17,166	6,310	2,031	.....	8,825	49
4,554,464	5,426,226	26,043,039	257,685	402,170	1,025,407	39,570,377	1,777,786	100,449,137	59,100,974	87,044	42,253	14,760	370	29,661	50
27,254	52,130	56,709	2,000	8,921	3,206	231,604	8,955	548,662	308,103	1,016	585	95	.....	336	51
20,400	7,341	99,948	.....	29,590	1,722	146,927	1,876	422,945	274,142	71	.....	.....	.....	41	52
98,649	91,035	618,075	13,804	23,829	12,162	2,096,287	18,007	3,296,367	1,182,573	414	.....	168	.....	546	53
778,282	691,903	4,414,612	16,338	127,689	155,299	7,086,404	204,171	16,411,298	9,120,723	16,051	12,204	1,397	.....	2,450	54
407,640	244,864	2,670,039	15,611	82,647	70,923	3,993,550	130,524	9,183,474	5,059,400	10,334	7,916	762	.....	1,656	55
142,157	281,464	631,393	27	11,881	21,793	1,390,624	23,349	2,692,055	1,278,082	1,332	900	130	.....	302	56
228,485	165,575	1,113,180	800	33,261	56,583	1,702,230	50,298	4,535,769	2,783,241	4,385	3,388	505	.....	492	57
86,671	123,580	472,634	875	34,494	9,611	1,142,141	33,757	2,217,918	1,042,020	1,304	118	187	.....	999	58
32,162	53,902	205,018	810	13,414	4,586	531,828	22,007	999,246	445,411	883	18	61	.....	804	59
54,509	69,678	267,616	65	21,080	5,025	610,313	11,750	1,218,672	596,609	421	100	126	.....	195	60
57,026	52,379	261,720	300	6,870	125,280	115,366	364,415	1,431,826	952,045	1,353	1,079	197	.....	77	61
43,118	39,704	128,514	200	7,006	5,911	216,419	5,745	559,666	337,502	311	138	168	.....	5	62

\* Same number reported for one or more other months.

\* None reported for one or more other months.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Average number.	Wage earners.		Total.	16 and over.		Under 16.					
					Male.	Female.		Number, 15th day of—			Male.	Female.	Male.	Female.				
								Maximum month.	Minimum month.									
1 Glass.....	39	11,541	4	197	227	116	10,997	Ap 13,290	Au 7,192	11,997	10,986	951	39	21	\$18,978,280			
2 Glass, cutting, staining, and ornamenting.....	40	595	33	42	20	19	431	No 514	Jy 437	494	405	87	2	.....	509,283			
3 Grease and tallow, not including lubricating greases.....	34	480	30	22	25	3	400	Je 423	No 367	400	399	1	.....	.....	1,087,976			
4 Tallow.....	17	254	18	16	23	1	190	Se 225	No 178	193	192	1	.....	.....	704,998			
5 All other, including soap stock.....	17	226	12	6	2	2	204	Je 216	De 187	207	207	.....	.....	.....	332,977			
6 Grindstones.....	10	579	1	14	13	5	546	My 626	De 427	527	527	.....	.....	.....	1,354,888			
7 Hair work.....	7	41	9	1	2	2	27	Mh 28	Au 25	27	27	23	.....	.....	23,001			
8 Hand stamps.....	18	75	18	7	6	5	39	(3) 39	(3) 39	39	39	4	2	1	53,171			
9 Hardware.....	51	5,326	25	126	231	141	4,803	Ap 5,240	Jy 4,324	4,630	4,208	401	10	11	8,879,616			
10 Locks, hinges, and other builders' hardware.....	16	1,171	11	45	53	20	1,036	My 1,148	Jy 834	967	904	62	1	.....	2,696,238			
11 All other.....	35	4,155	14	81	178	115	3,767	Ap 4,118	Jy 3,484	3,663	3,304	339	9	11	6,183,378			
12 Hats and caps, other than felt, straw, and wool.....	28	532	42	20	25	14	431	Fe 470	Se 354	442	176	204	.....	2	431,700			
13 Hats, fur-felt.....	7	38	6	3	2	.....	27	Mh 4 29	Ja 22	28	16	12	.....	.....	29,439			
14 Hosiery and knit goods.....	38	3,730	13	97	128	81	3,411	Mh 3,709	No 3,081	3,526	807	2,694	2	23	7,135,898			
15 House-furnishing goods, not elsewhere specified.....	26	429	18	28	39	24	320	Ap 376	Au 290	292	204	88	.....	.....	1,050,014			
16 Ice, manufactured.....	132	1,706	72	167	125	65	1,277	Au 1,859	Ja 821	1,312	1,297	15	.....	.....	10,247,927			
17 Ink, printing.....	7	414	.....	30	96	34	254	Au 4 259	Mh 249	258	254	4	.....	.....	2,689,375			
18 Instruments, professional and scientific.....	28	565	14	41	29	24	457	No 502	Ja 411	483	341	137	2	3	942,607			
19 Iron and steel, blast furnaces.....	33	6,625	.....	152	609	78	5,786	Ap 6,630	No 4,456	6,385	6,384	1	.....	.....	95,470,294			
20 Iron and steel, steel works and rolling mills.....	70	51,219	3	859	3,455	505	46,397	Mh 51,727	No 30,645	48,785	48,463	321	1	.....	232,224,732			
21 Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.....	15	2,557	3	52	83	54	2,365	Ap 2,586	De 2,086	2,217	1,954	262	1	.....	6,020,439			
22 Iron and steel forgings, not made in steel works or rolling mills.....	29	2,504	6	83	67	40	2,308	Mh 2,697	Au 2,008	2,335	2,329	2	.....	4	5,806,488			
23 Iron and steel, cast-iron pipe.....	8	1,532	.....	29	69	17	1,417	Fe 1,577	De 1,165	1,473	1,470	3	.....	.....	4,266,729			
24 Iron and steel, wrought pipe.....	5	2,382	2	37	49	9	2,285	Mh 2,736	Oc 1,868	2,067	2,067	.....	.....	.....	13,365,525			
25 Jewelry.....	57	692	76	32	67	40	477	De 503	Jy 4 466	508	456	43	9	.....	770,488			
26 Labels and tags.....	7	121	2	9	12	6	92	De 100	Ap 89	92	53	39	.....	.....	265,010			
27 Lamps and reflectors.....	14	1,005	1	28	37	12	927	Ap 1,282	De 641	876	823	53	.....	.....	1,458,098			
28 Automobile lamps.....	7	826	1	16	16	8	785	Ap 1,128	De 522	757	711	46	.....	.....	1,159,575			
29 Reflectors, and carriage and wagon lamps.....	7	179	.....	12	21	4	142	My 156	Se 112	119	112	7	.....	.....	299,123			
30 Leather goods, not elsewhere specified.....	12	77	12	3	3	6	53	Fe 59	Se 43	58	36	22	.....	.....	123,164			
31 Leather, tanned, curried, and finished.....	28	1,751	18	62	48	18	1,605	Fe 1,739	De 1,461	1,602	1,599	3	.....	.....	13,147,162			
32 Lime.....	38	1,568	34	56	41	21	1,416	Se 1,686	De 1,125	1,361	1,353	3	5	.....	3,851,018			
33 Liquors, distilled.....	18	398	11	19	29	7	332	Se 368	Jy 305	377	356	21	.....	.....	5,149,014			
34 Whisky and alcohol.....	9	383	4	19	28	6	326	Se 362	Jy 299	369	348	21	.....	.....	5,102,424			
35 All other.....	9	15	7	.....	1	1	6	Au 10	Ja 4 5	8	8	.....	.....	.....	47,490			
36 Liquors, malt.....	101	6,371	38	354	587	52	5,340	Jy 6,028	Fe 4,910	5,068	5,057	11	.....	.....	61,936,027			
37 Liquors, vinous.....	28	303	22	24	57	14	186	Oc 261	Jy 163	179	169	10	.....	.....	2,122,586			
38 Lithographing.....	28	1,951	8	72	136	62	1,673	Ja 1,714	No 1,625	1,624	1,395	227	2	.....	4,059,347			
39 Looking-glass and picture frames.....	14	493	8	25	45	5	410	Ap 429	Ja 328	408	365	43	.....	.....	930,130			
40 Lubricating greases.....	8	146	.....	22	34	17	73	Ap 78	De 65	65	65	.....	.....	.....	436,033			
41 Lumber and timber products.....	675	5,929	833	173	83	42	4,798	My 5,425	De 4,321	5,714	5,669	44	1	.....	7,276,428			
42 Lumber, planing-mill products, not including planing mills connected with sawmills.....	400	6,819	319	422	401	161	5,516	Au 5,862	Ja 5,106	5,232	5,203	28	1	.....	15,042,399			
43 Malt.....	5	89	1	9	4	1	74	Fe 90	Jy 54	81	80	1	.....	.....	991,222			
44 Marble and stone work.....	213	3,095	216	140	172	44	2,523	My 2,765	No 2,247	2,445	2,442	3	.....	.....	7,374,604			
45 Mattresses and spring beds.....	43	1,126	30	52	75	35	934	Ap 987	De 873	876	635	241	.....	.....	2,448,777			
46 Millinery and lace goods.....	30	1,116	35	39	73	58	911	Fe 1,299	Je 534	897	221	672	.....	4	828,341			
47 Embroideries, dress and cloak trimmings, women's neckwear, etc.....	10	263	12	6	33	32	180	Mh 4 189	De 4 170	174	39	135	.....	.....	207,172			
48 Trimmed hats, hat frames, etc.....	20	853	23	33	40	26	731	Fe 1,113	Je 355	723	182	537	.....	4	621,169			
49 Mineral and soda waters.....	202	972	242	61	75	19	575	Jy 689	Ja 481	568	554	8	.....	6	1,503,689			
50 Minerals and earths, ground.....	19	497	6	32	21	5	433	Ap 508	Fe 358	417	417	.....	.....	.....	1,182,513			
51 Mirrors.....	11	148	9	10	7	7	115	Se 125	My 105	118	116	2	.....	.....	186,687			
52 Models and patterns, not including paper patterns.....	98	709	111	40	21	18	519	Jy 560	Ja 473	524	510	12	2	.....	747,759			
53 Motorcycles, bicycles, and parts.....	9	891	4	29	72	34	752	Ap 1,007	Se 511	759	729	30	.....	.....	2,719,392			
54 Mucilage and paste.....	14	81	13	12	7	5	44	My 4 41	Ja 41	49	29	20	.....	.....	109,879			
55 Musical instruments, organs.....	8	150	12	9	1	5	123	Fe 135	Oc 102	118	112	4	2	.....	181,126			
56 Musical instruments, pianos.....	13	786	7	33	25	14	707	Ap 745	Jy 681	687	685	2	.....	.....	2,042,356			
57 Musical instruments, piano and organ materials.....	6	960	4	16	20	5	915	Fe 4 1,011	Se 811	852	778	74	.....	.....	1,622,047			
58 Oil, linseed.....	3	328	.....	14	157	7	150	Fe 184	Ap 106	146	146	.....	.....	.....	2,952,343			
59 Oil, not elsewhere specified.....	20	319	4	38	93	46	138	My 144	No 132	134	134	.....	.....	.....	1,197,555			
60 Optical goods.....	20	280	8	21	41	35	175	Mh 196	Ja 4 135	184	155	29	.....	.....	342,823			
61 Paints.....	65	2,925	23	170	826	209	1,697	Ap 1,822	De 1,587	1,695	1,561	134	.....	.....	12,518,032			

¹ Owned power only.

² Includes rented power, other than electric.

## MANUFACTURES—OHIO.

59

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$806,903	\$392,764	\$7,052,666	\$10,000	\$12,490	\$155,455	\$5,369,552	\$1,676,125	\$19,191,842	\$12,145,665	34,871	28,502	4,382	-----	1,987	25,318	1
63,785	29,388	294,553	927	16,483	3,763	417,938	10,010	978,688	550,740	360	-----	-----	-----	182	-----	2
48,487	22,872	270,138	2,326	2,311	5,587	605,509	65,967	1,215,913	544,437	2,010	1,354	70	-----	586	10	3
38,537	20,145	139,416	487	1,316	4,057	586,828	38,420	965,742	340,494	1,409	794	29	-----	586	-----	4
9,950	2,727	130,722	1,839	995	1,530	18,681	27,547	250,171	203,943	601	560	41	-----	-----	10	5
28,852	17,423	254,636	6,500	-----	5,592	37,381	23,438	488,361	427,542	1,866	1,608	175	-----	83	30	6
2,500	3,446	13,296	125	4,118	135	8,026	139	45,614	37,449	-----	-----	-----	-----	-----	-----	7
8,876	5,840	26,425	500	6,788	399	32,116	532	111,798	79,150	26	-----	10	-----	16	-----	8
311,203	416,307	2,909,362	7,271	16,584	100,623	3,364,308	328,488	9,069,625	4,906,829	8,687	4,116	598	10	3,963	1,491	9
89,892	89,540	607,214	7,271	5,600	26,364	890,524	36,910	1,924,972	997,538	2,026	1,115	200	-----	711	466	10
221,311	326,767	2,302,148	-----	10,984	74,259	2,943,784	291,578	7,144,653	3,909,291	6,661	3,001	398	10	3,252	1,025	11
38,388	31,383	224,419	-----	21,782	1,916	568,985	5,476	1,040,277	465,816	58	-----	-----	-----	58	-----	12
4,000	1,000	19,207	309	5,748	567	46,523	873	91,095	43,699	13	-----	-----	-----	13	-----	13
301,892	221,386	1,502,400	73,564	80,268	37,234	4,969,276	63,249	8,654,103	3,621,578	2,740	1,670	96	-----	974	1,034	14
62,195	63,813	161,847	997	7,751	12,032	984,671	10,859	1,430,265	434,735	895	700	72	-----	123	426	15
223,947	119,661	904,476	5,412	21,653	108,749	290,975	584,934	3,134,302	2,258,393	27,978	26,356	969	-----	653	861	16
186,510	189,851	196,056	1,245	3,525	23,015	1,321,632	32,402	1,409,603	1,913	1,913	1,553	360	-----	-----	1,000	17
72,667	59,504	253,723	33,872	10,347	5,524	239,172	7,999	867,742	620,571	436	128	211	-----	97	96	18
558,265	850,530	5,170,730	40,900	15,000	743,629	41,379,764	19,358,760	72,969,368	12,230,844	232,179	196,256	32,725	150	3,048	38,872	19
2,368,915	4,641,282	38,004,187	22,222	64,548	1,405,181	129,835,882	9,840,609	205,023,391	65,346,900	642,958	601,164	14,296	1	27,497	186,057	20
176,537	139,923	1,322,597	812	5,969	57,775	2,478,573	123,151	4,651,422	2,049,698	6,167	1,890	756	-----	3,521	607	21
206,624	93,224	1,570,372	-----	8,174	54,613	3,519,885	417,551	6,752,467	2,815,031	7,440	2,800	1,806	-----	2,834	1,906	22
62,501	79,635	888,209	-----	27,727	1,875,960	186,493	3,355,043	1,292,590	7,387	5,000	20	-----	-----	2,367	5,021	23
92,903	47,365	1,534,575	-----	5,310	29,713	5,940,555	211,654	9,367,581	3,215,372	3,193	3,178	15	-----	-----	7,302	24
61,892	73,749	337,464	875	32,361	3,763	396,866	6,608	1,265,096	861,622	348	-----	15	-----	333	1	25
19,297	13,827	44,239	853	5,190	1,525	120,472	1,694	250,206	128,040	63	-----	28	-----	35	-----	26
66,190	46,250	548,525	430	14,330	11,787	1,898,734	25,037	2,681,177	1,257,406	1,564	370	480	-----	714	45	27
46,680	29,284	465,011	-----	11,820	9,946	1,273,825	20,299	2,327,540	1,033,416	1,244	335	250	-----	659	45	28
19,510	16,966	83,514	430	2,510	1,841	124,909	4,788	353,637	223,990	320	35	230	-----	55	-----	29
4,731	6,070	29,403	-----	1,472	840	105,881	1,414	169,420	62,125	60	-----	29	-----	31	-----	30
164,070	61,830	1,054,461	-----	6,967	77,596	8,401,167	105,086	11,627,916	3,121,663	4,450	3,942	145	-----	363	2,072	31
101,928	55,853	777,215	10,648	2,828	22,467	351,919	354,063	2,334,349	1,628,367	7,374	4,707	504	-----	2,168	1,080	32
73,036	53,506	222,941	35	1,568	7,273,583	1,897,475	90,736	10,683,552	8,695,341	2,809	2,747	29	20	13	394	33
73,036	52,084	218,517	-----	7,260,348	1,885,522	89,905	89,905	10,644,553	8,669,156	2,710	2,678	12	20	-----	394	34
-----	1,482	4,424	35	1,568	13,235	11,523	831	38,959	26,185	99	69	17	-----	13	-----	35
1,153,801	825,389	4,416,392	111,132	6,234	6,298,612	8,291,702	898,780	31,990,274	22,799,792	38,048	36,438	642	32	936	6,432	36
33,979	75,919	114,806	926	3,960	49,450	1,040,307	12,352	1,800,050	747,361	447	245	49	-----	143	-----	37
225,966	273,584	1,427,918	16,107	40,678	36,774	1,248,111	34,270	4,179,127	2,896,746	1,829	715	386	-----	728	976	38
46,518	54,317	258,265	-----	9,553	6,605	320,087	10,735	913,128	582,306	835	305	250	-----	280	10	39
34,376	38,701	45,680	-----	3,138	2,697	349,771	6,376	703,448	347,301	134	25	109	-----	-----	-----	40
245,108	104,696	2,387,621	190,954	19,559	63,455	4,294,746	52,066	9,043,930	4,667,118	29,964	27,114	1,008	130	1,712	726	41
685,235	437,303	3,845,987	161,211	100,921	127,443	11,211,474	190,423	18,892,060	7,490,163	25,187	14,300	5,288	150	5,449	2,461	42
13,682	8,726	52,496	-----	3,080	5,863	613,775	26,193	771,055	131,087	1,035	605	-----	-----	430	-----	43
245,261	214,045	1,636,178	95,696	22,946	45,667	1,925,119	123,998	5,263,992	3,214,875	10,353	5,410	2,230	-----	2,713	1,935	44
114,082	116,257	499,945	46,905	29,078	22,535	1,965,363	32,183	3,426,908	1,429,362	2,228	1,000	469	-----	759	16	45
68,581	83,693	433,194	150	38,513	5,091	989,311	15,610	1,917,919	912,998	409	85	27	50	247	70	46
12,580	44,038	85,889	150	10,963	1,186	197,343	2,805	410,668	210,520	48	-----	27	-----	21	-----	47
56,001	39,655	347,305	-----	27,550	3,905	791,988	12,805	1,507,251	702,478	361	85	-----	50	226	70	48
70,744	65,554	342,370	320	30,197	12,520	837,527	22,626	2,003,699	1,143,546	1,059	315	344	9	391	14	49
44,436	20,795	227,343	1,845	1,027	7,927	292,057	59,464	779,555	428,034	3,967	3,272	60	-----	635	150	50
20,189	20,889	76,390	1,059	4,364	1,586	158,929	3,666	361,352	198,757	246	120	71	-----	55	-----	51
71,187	25,969	392,660	2,070	26,882	4,616	170,214	13,040	896,184	712,930	1,036	145	414	50	427	35	52
84,788	114,207	517,741	-----	8,180	19,246	1,590,224	43,942	2,931,383	1,297,217	1,951	470	210	-----	1,271	40	53
13,946	13,083	23,929	-----	5,913	1,086	105,440	2,087	198,911	91,384	118	84	23	-----	61	-----	54
9,623	4,229	75,499	-----	1,923	1,806	109,165	3,252	239,497	127,080	191	65	72	-----	54	-----	55
88,369	32,299	447,339	2,044	36,972	17,725	1,052,522	15,221	1,972,309	904,516	996	820	88	-----	88	68	56
35,613	20,078	499,512	-----	26,652	10,204	470,138	22,569	1,332,880	840,173	1,014	-----	400	-----	614	428	57
57,069	150,957	115,917	-----	612	18,382	3,605,322	36,709	3,957,939	315,908	1,603	910	-----	-----	693	34	58
82,851	100,082	105,294	50	7,078	10,492	1,877,541	10,915	2,675,950	787,494	495	354	67	-----	74	84	59
47,554	44,952	102,891	351	22,807	2,613	211,411	4,775	617,070	400,884	102	-----	-----	-----	102	-----	60
487,834	1,135,401	1,031,701	2,573	57,950	116,112	8,803,724	104,884	14,824,073	5,915,465	7,709	4,292	812	-----	2,605	1,194	61

<sup>1</sup> Same number reported throughout the year.<sup>2</sup> Same number reported for one or more other months.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Capital.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.				Total.	16 and over.		Under 16.			
					Male.	Female.	Average number.	Number, 15th day of—				Male.	Female.	Male.	Female.		
								Maximum month.	Minimum month.								
1 Paper and wood pulp.....	48	5,865	1	166	185	83	5,430	Mh <sup>a</sup> 5,534	De 5,104	5,226	4,584	612	30	.....	.....	\$22,973,752	
2 Paper goods, not elsewhere specified.....	23	1,729	19	35	138	58	1,479	Mh 1,518	No 1,420	1,443	808	635	.....	.....	.....	4,207,854	
3 Patent medicines and compounds.....	198	1,631	162	133	452	244	640	Mh 718	Jy 572	691	399	286	2	4	.....	3,027,744	
4 Paving materials.....	66	2,221	44	117	82	21	1,957	Se 2,549	De 1,189	1,946	1,932	.....	14	.....	.....	7,395,265	
5 Perfumery and cosmetics.....	28	488	25	21	259	50	133	Oc 149	Au 117	139	63	76	.....	.....	.....	413,142	
6 Petroleum, refining.....	7	2,626	.....	35	1,026	46	1,519	Oc 1,592	Au 1,458	1,505	1,483	22	.....	.....	.....	10,426,715	
7 Photographic apparatus.....	4	28	9	2	3	1	13	Fe <sup>a</sup> 15	Se 10	13	3	2	2	6	.....	6,351	
8 Photographic materials.....	4	58	.....	8	8	2	40	Au 44	Ja <sup>a</sup> 36	43	42	1	.....	.....	.....	74,370	
9 Photo-engraving.....	26	588	18	52	69	38	411	Se <sup>a</sup> 419	Ja 394	416	405	11	.....	.....	.....	471,758	
10 Pickles, preserves, and sauces.....	39	1,025	23	47	76	26	853	Se 1,354	Ap 662	777	363	413	1	.....	.....	2,626,220	
11 Preserves.....	17	493	10	18	42	16	407	Oc 520	Ap 313	374	147	227	.....	.....	.....	1,051,743	
12 Pickles and sauces.....	22	532	13	29	34	10	446	Se 903	Ja 296	403	216	186	1	.....	.....	1,574,477	
13 Plumbers' supplies, not elsewhere specified.....	43	2,439	16	101	206	74	2,042	Au 2,169	My 1,920	2,093	1,816	28	234	15	.....	5,013,327	
14 Pottery.....	99	11,844	41	297	260	150	11,096	Mh 11,390	Jy 10,482	11,193	8,158	2,968	34	33	.....	13,872,886	
15 China ware.....	45	8,733	7	200	141	101	8,284	Mh 8,415	Jy 8,038	8,303	5,781	2,461	33	28	.....	9,315,312	
16 Earthen and stone ware.....	45	2,939	20	91	119	48	2,661	Mh 2,824	Jy 2,294	2,739	2,258	476	5	.....	.....	4,438,199	
17 All other.....	9	172	14	6	.....	1	151	Ap 158	My <sup>a</sup> 146	151	119	31	1	.....	.....	119,375	
18 Poultry, killing and dressing.....	5	57	2	4	4	1	46	De 105	Mh 26	19	.....	.....	19	.....	.....	104,410	
19 Printing and publishing, book and job.....	772	10,365	697	584	698	428	7,978	Ja 8,182	Se 7,863	*7,949	5,873	2,036	37	3	.....	15,445,512	
20 Job printing.....	715	9,565	663	506	579	367	7,450	Jy 7,652	Se 7,340	7,416	5,503	1,876	37	.....	.....	13,960,459	
21 Book publishing and printing.....	12	450	5	20	16	18	391	No 403	Au 381	395	251	141	.....	3	.....	709,715	
22 Book publishing without printing.....	30	212	13	28	98	35	38	Fe 51	Jy 26	40	28	12	.....	.....	.....	593,662	
23 Linotype work, typesetting, etc.....	15	138	16	10	5	8	99	Ap <sup>a</sup> 101	Ja 95	98	91	7	.....	.....	.....	190,676	
24 Printing and publishing, music.....	12	159	11	21	46	31	50	Ap 55	De 45	45	41	4	.....	.....	.....	243,527	
25 Printing and publishing, newspapers and periodicals.....	901	12,359	715	700	2,252	1,418	7,274	De 7,377	Jy 7,125	7,409	5,989	1,278	140	2	.....	20,682,947	
26 Printing and publishing.....	89	4,856	39	173	1,229	647	2,768	Fe 2,814	Jy 2,681	2,820	2,535	261	24	.....	.....	9,112,381	
27 Printing and publishing and job printing.....	607	6,773	561	414	803	593	4,402	Ap 4,464	Je 4,338	4,479	3,360	1,003	114	2	.....	10,997,732	
28 Publishing without printing.....	205	730	115	113	220	178	104	De 110	Au 98	110	94	14	2	.....	.....	872,834	
29 Printing materials.....	7	34	5	4	1	3	21	Oc <sup>a</sup> 23	Fe <sup>a</sup> 19	21	21	.....	.....	.....	.....	58,059	
30 Pumps, not including power pumps.....	17	1,212	11	39	126	22	1,014	Fe 1,155	Oc 905	976	976	.....	.....	.....	.....	2,734,230	
31 Pumps, steam and other power.....	9	794	1	41	87	22	643	Je 685	De 571	571	569	2	.....	.....	.....	2,291,211	
32 Refrigerators.....	4	117	5	8	17	6	81	Ap 100	Au 53	84	84	.....	.....	.....	.....	227,020	
33 Regalia and society badges and emblems.....	11	1,128	4	26	126	49	923	Ap 1,004	Au 856	875	327	544	1	3	.....	1,991,763	
34 Roofing materials.....	18	874	9	33	76	41	715	Se 800	De 586	632	605	25	2	.....	.....	3,632,886	
35 Rubber goods, not elsewhere specified.....	54	29,212	10	469	5,433	1,595	21,705	My 25,439	Ja 19,479	21,903	19,451	2,423	24	5	.....	100,742,327	
36 Saddlery and harness.....	154	1,854	166	79	165	41	1,403	De 1,548	Au 1,306	1,554	1,395	134	25	.....	.....	4,133,397	
37 Sails and vaults.....	10	2,081	1	61	196	63	1,760	Fe 1,882	Au 1,650	1,720	1,719	.....	1	.....	.....	4,948,552	
38 Salt.....	8	909	.....	32	47	17	813	Oc 860	Jy 772	777	704	73	.....	.....	.....	2,808,990	
39 Sausage.....	17	196	15	10	24	8	139	Oc 144	Ja <sup>a</sup> 136	142	141	1	.....	.....	.....	350,259	
40 Saws.....	8	186	7	12	11	7	149	Fe 169	Au <sup>a</sup> 137	139	139	.....	.....	.....	.....	415,927	
41 Screws, machine.....	7	1,634	.....	33	88	49	1,464	Ap 1,639	Oc 1,248	1,547	1,436	108	3	.....	.....	3,759,909	
42 Sewing machines and attachments.....	3	2,104	.....	25	115	39	1,925	Mh 2,321	Au 1,467	1,867	1,799	59	9	.....	.....	9,206,707	
43 Shipbuilding, iron and steel.....	5	2,739	.....	32	66	18	2,623	Mh 3,336	No 1,828	2,448	2,446	.....	2	.....	.....	12,410,669	
44 Shipbuilding, wooden, including boat building.....	24	307	29	13	6	3	256	Se 298	Mh 230	248	248	.....	.....	.....	.....	459,777	
45 New vessels.....	4	155	9	5	3	3	135	Ap 147	De 125	125	125	.....	.....	.....	.....	228,822	
46 Repair work.....	5	72	1	3	2	.....	66	Fe 86	Mh 47	66	66	.....	.....	.....	.....	111,279	
47 Small boats.....	15	80	19	5	1	.....	55	Au 92	Ja 25	57	57	.....	.....	.....	.....	119,676	
48 Shirts.....	33	2,360	22	65	132	74	2,067	Fe 2,289	No <sup>a</sup> 1,899	1,963	151	1,772	7	33	.....	1,701,797	
49 Show cases.....	11	849	5	21	13	8	302	Ap 336	No 270	274	285	4	2	.....	.....	523,134	
50 Signs and advertising novelties.....	50	1,719	29	85	97	136	1,372	My 1,431	Ja 1,308	1,380	871	504	3	2	.....	3,173,843	
51 Electric signs.....	10	174	6	12	11	11	134	Ap <sup>a</sup> 146	No 120	135	102	32	1	.....	.....	104,920	
52 Signs, other than electric.....	21	778	12	42	39	43	642	Ap 680	Ja 583	618	459	159	.....	.....	.....	1,640,851	
53 Advertising novelties.....	19	767	11	31	47	82	596	No 624	Fe 576	627	310	313	2	2	.....	1,433,063	
54 Slaughtering and meat packing.....	152	4,321	158	179	418	86	3,480	De 4,156	Se 3,310	3,806	3,715	86	5	.....	.....	14,643,736	
55 Smelting and refining, not from the ore.....	8	112	3	9	6	5	89	De 98	No 77	99	99	.....	.....	.....	.....	455,876	
56 Sporting and athletic goods.....	9	600	8	17	27	17	531	Fe 583	Se 478	512	296	204	10	2	.....	714,612	
57 Springs, steel, car and carriage.....	7	913	.....	23	56	15	819	De 1,005	Ja 705	1,005	1,005	.....	.....	.....	.....	1,919,021	
58 Stamped and enameled ware, not elsewhere specified.....	35	3,186	5	97	155	76	2,853	Mh 3,214	No 2,393	2,704	2,146	550	6	2	.....	6,629,146	
59 Stamped ware.....	20	648	3	44	39	16	546	Mh 618	De 479	484	457	24	2	1	.....	1,375,745	
60 Enameled ware and bath tubs.....	15	2,538	2	53	116	60	2,307	Mh 2,596	No 1,905	2,220	1,689	526	4	1	.....	5,253,401	
61 Stationery goods, not elsewhere specified.....	15	894	7	30	100	49	708	Ja 755	Se 660	691	466	225	.....	.....	.....	2,264,768	
62 Statuary and art goods.....	8	107	12	5	4	5	81	De 92	Jy 31	93	84	9	.....	.....	.....	180,511	
63 Steam fittings and steam and hot-water heating apparatus.....	33	3,000	9	94	365	118	2,414	Se 2,620	Ap 2,290	2,375	2,367	.....	8	.....	.....	7,451,386	
64 Radiators and cast-iron heating boilers.....	13	770	2	29	78	33	628	Se 774	Ja 506	654	653	.....	1	.....	.....	2,003,903	
65 All other.....	20	2,230	7	65	287	85	1,786	Se 1,846	De 1,725	1,721	1,714	.....	7	.....	.....	5,447,483	
66 Steam packing.....	3	26	2	1	3	1	19	Ja <sup>a</sup> 23	De 14	41	13	.....	1	.....	.....	23,020	

<sup>a</sup> Owned power only.<sup>a</sup> Includes rented power, other than electric.



## MANUFACTURES—OHIO.

61

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manu- facture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Elec- tric horse- power gener- ated in estab- lish- ments report- ing.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, includ- ing in- ternal revenue and cor- poration income.	Principal materials.	Fuel and rent of power.			Total.	Steam en- gines. <sup>1</sup>	In- ter- nal- com- bus- tion en- gines. <sup>2</sup>	Water wheels and mo- tors. <sup>1</sup>	Elec- tric (rent- ed).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$501,616	\$279,582	\$3,377,778	\$9,051	\$12,761	\$161,096	\$14,828,690	\$1,280,584	\$23,234,192	\$7,174,918	50,013	43,609	490	3,900	2,014	7,449	1
117,729	192,366	786,170	103	15,054	488,728	2,262,488	43,683	5,336,506	3,030,335	3,035	1,865	57	-----	1,113	997	2
233,480	466,458	294,184	1,895	67,123	26,338	2,229,920	43,180	5,611,885	3,338,785	1,449	829	50	-----	570	403	3
197,633	95,261	1,169,371	3,316	37,927	45,184	463,874	259,371	3,507,253	2,784,008	23,885	18,842	695	-----	4,348	528	4
33,390	137,961	46,113	683	12,969	12,948	204,366	1,569	830,893	624,958	114	-----	80	-----	34	80	5
192,318	922,785	1,024,535	40,889	-----	148,620	9,424,188	500,257	11,169,189	1,244,744	4,920	4,820	50	50	-----	70	6
3,280	3,280	7,106	-----	1,224	26	3,231	25	22,701	19,445	-----	-----	-----	-----	-----	-----	7
11,971	12,375	20,870	-----	3,520	835	39,391	1,731	113,887	72,765	61	-----	25	-----	36	-----	8
96,744	86,334	395,683	14,981	27,920	2,921	157,728	12,703	974,274	803,843	365	-----	51	-----	315	11	9
93,120	120,120	369,484	1,677	9,066	14,783	2,741,135	31,271	4,221,691	1,449,285	2,100	1,937	66	-----	97	395	10
25,836	73,482	158,678	562	6,474	8,326	869,975	12,311	1,566,321	684,035	821	767	17	-----	37	60	11
67,284	46,638	210,806	1,115	2,592	6,457	1,871,160	18,960	2,655,370	765,250	1,279	1,170	49	-----	60	335	12
239,399	470,702	1,297,199	1,029	28,323	30,838	2,042,989	104,143	5,129,257	2,982,125	4,032	2,495	390	-----	1,147	158	13
536,771	444,523	6,689,440	27,339	2,826	99,337	3,785,353	1,182,449	15,291,685	10,323,883	9,271	7,390	975	-----	906	797	14
384,858	255,319	238,527	25,891	1,360	64,038	3,031,527	803,138	11,313,206	7,478,541	5,087	3,805	678	-----	604	540	15
140,833	188,004	1,502,770	1,248	1,089	34,461	723,492	363,863	3,815,035	2,727,680	3,804	3,282	223	-----	299	257	16
11,080	1,200	78,843	200	377	838	30,334	15,448	1,566,321	117,662	380	303	74	-----	3	-----	17
5,640	2,232	25,978	-----	720	628	438,937	1,486	498,427	58,004	45	-----	-----	-----	45	-----	18
1,238,425	888,907	5,097,537	513,710	438,906	131,862	6,703,096	208,113	19,915,250	13,004,041	8,964	1,849	975	1	6,139	2,230	19
1,106,547	753,109	4,741,364	132,228	403,897	120,603	6,254,564	189,767	17,640,640	11,196,309	8,402	1,814	837	1	5,750	2,230	20
52,556	31,094	238,527	12,245	19,797	5,158	405,290	14,971	1,210,152	789,891	514	35	138	-----	341	-----	21
67,016	96,880	21,456	368,557	9,314	5,172	31,195	609	875,408	843,604	12	-----	-----	-----	12	-----	22
12,306	7,824	96,190	680	5,898	929	12,047	2,766	189,050	174,237	36	-----	-----	-----	36	-----	23
46,115	61,650	34,327	86,275	8,474	1,424	71,431	12	484,344	412,901	-----	-----	-----	-----	-----	-----	24
1,544,101	2,904,509	5,632,571	936,212	312,971	193,015	7,541,397	231,169	28,023,290	20,260,724	12,720	2,536	1,908	43	8,233	1,698	25
640,823	1,641,106	2,490,034	7,013	103,075	96,057	4,483,418	91,540	14,649,959	10,075,001	5,625	1,315	270	6	4,034	727	26
690,844	973,975	3,065,710	37,694	176,371	88,347	2,899,469	137,593	10,934,197	7,897,145	6,929	1,221	1,623	37	4,048	971	27
212,434	289,428	76,827	891,505	33,525	8,611	158,520	2,036	2,439,134	2,278,578	166	-----	15	-----	151	-----	28
8,521	2,659	15,769	-----	4,920	407	39,316	1,297	101,997	61,384	24	8	-----	-----	16	-----	29
70,945	102,063	638,530	-----	8,401	25,111	1,384,626	19,394	3,277,182	1,873,162	1,403	785	430	-----	188	234	30
85,752	98,690	378,048	22,439	6,299	7,376	555,378	20,039	1,355,471	780,054	1,229	1,120	61	-----	48	1,130	31
13,048	20,691	54,236	1,362	2,090	136,778	1,818	1,818	276,168	137,572	266	130	-----	-----	-----	5	32
84,534	170,082	453,731	1,040	11,940	21,791	1,053,221	9,503	2,326,639	1,263,915	274	60	185	-----	29	188	33
97,761	106,939	428,591	1,592	3,480	29,020	2,247,345	71,752	3,905,812	1,586,715	2,076	1,773	100	-----	203	1,380	34
1,687,441	4,814,937	14,578,251	3,875	14,245	923,546	57,837,001	900,475	109,658,605	50,921,129	58,672	49,951	1,152	-----	7,569	41,295	35
140,550	164,521	764,811	1,065	39,980	33,895	3,046,468	21,178	4,869,957	1,802,311	1,106	567	-----	-----	390	203	36
138,328	395,691	1,153,082	25,721	5,360	28,604	1,434,290	48,588	4,337,430	2,854,552	5,603	4,120	230	-----	1,253	2,738	37
88,248	61,317	440,905	2,679	5,000	18,268	909,080	295,128	2,197,204	992,996	4,937	4,248	305	-----	384	1,418	38
25,988	27,843	106,337	-----	2,191	3,955	1,372,023	12,107	1,713,983	329,853	681	403	53	-----	225	-----	39
15,480	14,507	97,163	-----	7,730	2,692	77,635	8,744	274,534	188,455	524	-----	224	-----	300	-----	40
128,330	124,664	941,952	-----	1,912	33,348	1,307,623	60,665	3,275,186	1,906,898	2,885	400	290	-----	2,195	125	41
101,027	156,493	1,260,711	-----	1,800	43,888	2,549,773	57,524	4,508,758	1,901,461	2,943	800	235	-----	1,908	60	42
145,588	72,970	1,791,649	730	88,626	1,571,259	140,066	140,066	4,291,645	2,580,320	8,748	7,242	-----	-----	1,506	6,251	43
20,795	6,089	146,916	2,497	2,990	3,003	133,493	3,762	425,142	227,887	913	728	90	-----	95	-----	44
10,800	5,340	75,820	2,450	-----	1,469	138,215	1,931	244,723	104,577	307	240	-----	-----	67	-----	45
3,045	209	31,774	47	220	945	17,691	509	70,975	52,775	803	260	43	-----	-----	-----	46
6,950	540	39,322	-----	2,770	589	37,587	1,322	109,444	70,535	803	228	47	-----	28	-----	47
165,905	124,881	735,232	38,115	52,863	7,681	1,747,403	16,678	3,558,361	1,794,280	1,064	550	47	-----	467	-----	48
30,962	16,152	178,272	1,500	6,510	4,499	270,460	9,323	619,405	339,682	711	360	100	-----	251	-----	49
106,589	167,828	734,014	9,185	26,949	22,723	1,718,301	25,554	3,551,045	1,807,190	1,800	986	218	-----	596	58	50
14,383	12,722	73,983	430	7,455	812	87,916	1,979	299,754	209,859	111	-----	10	-----	101	-----	51
84,342	72,490	369,312	7,520	10,186	11,973	846,149	14,945	1,582,203	721,109	932	470	74	-----	13	-----	52
67,864	82,616	290,719	1,235	9,308	9,938	784,236	8,630	1,669,088	876,222	757	516	134	-----	107	45	53
369,046	455,250	1,381,400	8,057	45,721	122,072	57,998,310	298,660	64,960,396	6,663,426	12,356	9,139	618	-----	2,599	3,300	54
23,470	8,297	85,823	500	1,501	4,002	236,746	74,319	575,085	267,020	697	640	4	-----	53	733	55
44,350	38,224	253,999	8,888	5,564	4,842	423,899	8,285	986,496	554,312	411	164	169	-----	78	22	56
61,574	81,393	627,952	-----	4,431	14,663	1,401,459	149,040	2,773,666	1,231,167	1,567	390	331	-----	846	8	57
282,676	212,655	1,668,737	150	20,708	51,485	781,764	260,246	6,760,998	3,713,988	3,571	1,580	1,135	-----	856	832	58
94,144	50,303	347,689	150	20,308	12,378	783,574	15,661	1,548,963	749,728	1,150	425	504	-----	221	5	59
188,532	162,352	1,321,048	-----	400	39,107	1,998,190	244,585	5,212,035	2,969,260	2,421	1,155	631	-----	635	827	60
82,658	143,261	394,192	1,026	4,620	20,771	881,334	24,780	2,174,425	1,268,311	1,118	670	140	-----	308	724	61
8,920	4,208	55,089	-----	2,670	1,107	34,187	2,067	135,854	99,600	69	-----	55	-----	14	105	62
314,196	545,892	1,546,050	5,775	27,087	65,586	2,195,623	108,980	6,314,783	4,010,180	3,979	2,310	794	-----	875	1,336	63
73,092	129,844	446,739	100	14,270	13,129	590,073	38,564	1,487,232	858,595	712	175	73	-----	464	440	64
241,104	416,048	1,099,311	5,675	12,817	52,457	1,605,550	70,416	4,827,551	3,151,585	3,267	2,135	721	-----	411	896	65
4,000	2,530	11,603	36	720	463	18,852	633	37,895	18,410	72	-----	72	-----	-----	-----	66

\* Same number reported for one or more other months.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.			
					Male.	Female.	Average number.	Number, 15th day of—		Male.	Female.	Male.	Female.		
								Maximum. month.							Minimum. month.

## THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

1	Stencils and brands.....	16	69	15	4	4	4	42	Se <sup>s</sup> 43	No <sup>s</sup> 41	43	41	1	1	.....	\$87,410	
2	Stereotyping and electrotyping.....	16	368	12	14	25	11	306	Se 319	Jy 290	311	310	.....	1	.....	455,433	
3	Stoves and hot-air furnaces, except gas and oil stoves.....	79	5,730	33	199	307	150	5,041	Oc 5,332	Jy 4,376	5,091	5,068	18	5	.....	10,656,663	
4	Stoves and ranges.....	38	4,574	15	127	240	104	4,088	Mh 4,374	Jy 3,503	4,016	4,014	2	.....	.....	8,189,909	
5	Hot-air furnaces and fireless cookers.....	41	1,156	18	72	67	46	953	Oc 1,086	Je 836	1,075	1,054	16	5	.....	2,466,764	
6	Stoves, gas and oil.....	26	4,056	8	115	321	78	3,534	Je 3,988	No 3,182	3,232	3,201	12	19	.....	6,118,589	
7	Structural ironwork, not made in steel works or rolling mills.....	93	8,012	43	264	809	239	6,657	Je 7,254	De 5,893	6,889	6,815	63	11	.....	22,077,020	
8	Sugar, beet.....	3	350	.....	9	54	5	282	Oc 979	Mh 48	882	874	8	.....	.....	4,393,089	
9	Sulphuric, nitric, and mixed acids.....	4	259	.....	11	24	2	222	De 339	Fe 172	339	338	1	.....	.....	2,214,623	
10	Surgical appliances.....	16	190	15	11	9	15	140	Je <sup>s</sup> 143	My 135	143	80	61	2	.....	156,038	
11	Suspenders, garters, and elastic-woven goods.....	11	364	8	13	24	20	299	Jy 328	Ja 255	274	33	241	.....	.....	448,651	
12	Tin plate and terneplate.....	7	1,030	.....	19	48	10	953	Oc 1,054	De 689	1,026	900	126	.....	.....	3,201,598	
13	Tinware, not elsewhere specified.....	17	2,578	9	44	210	55	2,260	Se 2,414	De 2,010	2,010	1,386	624	.....	.....	12,644,722	
14	Tobacco, chewing and smoking, and snuff.....	24	1,587	19	32	219	60	1,257	Se 1,359	Ja 1,137	1,224	593	630	1	.....	6,813,802	
15	Tobacco, cigars.....	937	13,568	1,013	192	254	84	12,025	Fe 12,581	Jy 11,760	12,162	3,807	8,338	10	7	.....	8,200,257
16	Tools, not elsewhere specified.....	62	2,716	58	106	230	95	2,227	Ap 2,402	De 1,913	2,034	1,884	149	1	.....	6,789,137	
17	Shovels, spades, scoops, carpenters' tools, etc.....	10	462	1	25	29	10	397	My 434	Oc <sup>s</sup> 375	363	353	9	1	.....	950,190	
18	Machinists' tools.....	12	1,725	9	46	163	57	1,450	Ja 1,580	De 1,255	1,285	1,176	109	.....	.....	4,910,201	
19	All other.....	40	529	48	35	38	28	380	My 429	No 278	386	355	31	.....	.....	928,746	
20	Toys and games.....	36	1,229	28	34	38	26	1,103	Oc 1,283	Ja 841	1,063	757	298	6	2	.....	1,690,705
21	Trunks and valises.....	21	354	17	24	12	14	287	Ap 325	No 225	230	205	24	1	.....	562,426	
22	Umbrellas and canes.....	13	363	18	12	43	23	267	Ap 297	Ja 249	268	95	171	2	.....	579,884	
23	Varnishes.....	30	797	12	91	205	79	410	My 454	No 370	371	340	30	1	.....	4,443,920	
24	Vault lights and ventilators.....	3	16	2	1	.....	1	12	Au <sup>s</sup> 15	Ja <sup>s</sup> 10	12	12	.....	.....	.....	12,926	
25	Vinegar and cider.....	18	48	18	2	3	2	23	Oc 53	Mh <sup>s</sup> 10	43	43	.....	.....	.....	67,274	
26	Vinegar.....	4	22	4	1	3	2	12	Oc 18	Ja <sup>s</sup> 10	12	12	.....	.....	.....	45,909	
27	Cider.....	14	26	14	1	.....	.....	11	Oc 35	Ja <sup>s</sup> 1	31	31	.....	.....	.....	21,365	
28	Wall paper, not made in paper mills.....	3	152	.....	11	30	5	106	Fe 128	Jy 60	109	94	15	.....	.....	331,152	
29	Wall plaster.....	22	753	6	42	69	10	626	Se 680	Ja 548	565	562	3	.....	.....	2,687,681	
30	Washing machines and clothes wringers.....	11	230	2	19	21	17	171	My 204	De 121	122	119	3	.....	.....	450,167	
31	Window and door screens and weather strips.....	19	265	14	16	15	10	210	My 301	Ja 167	193	187	6	.....	.....	269,166	
32	Window and door screens.....	15	242	12	14	14	6	196	My 286	Ja 155	179	173	6	.....	.....	230,205	
33	Weatherstrips.....	4	23	2	2	1	4	14	Je <sup>s</sup> 16	Ja <sup>s</sup> 12	14	14	.....	.....	.....	38,901	
34	Wirework, including wire rope and cable.....	43	1,028	22	65	85	46	810	Ap 889	De <sup>s</sup> 756	759	671	78	10	.....	1,706,469	
35	Wire rope and cable, and woven-wire fencing.....	14	276	7	24	44	25	176	My 219	De <sup>s</sup> 146	147	147	.....	.....	.....	579,370	
36	All other.....	29	752	15	41	41	21	634	Ap 677	Oc 599	612	524	78	10	.....	1,127,099	
37	Wood preserving.....	5	202	.....	13	16	10	163	My 198	Fe <sup>s</sup> 119	121	121	.....	.....	.....	783,812	
38	Wood, turned and carved.....	61	1,156	60	57	27	27	985	Mh 1,109	Se 863	1,023	994	29	.....	.....	1,842,654	
39	Wooden goods, not elsewhere specified.....	16	171	12	9	4	5	141	Ap <sup>s</sup> 145	De 136	148	128	19	.....	1	194,265	
40	Wool shoddy.....	5	569	1	11	31	3	523	De 556	Se 492	560	378	182	.....	.....	1,285,417	
41	All other industries*.....	267	31,393	140	932	2,287	787	27,247	.....	.....	.....	.....	.....	.....	.....	92,707,970	

\*All other industries embrace—  
Aeroplanes and parts..... 1  
Ammunition..... 3  
Artificial flowers..... 1  
Artists' materials..... 1  
Asbestos products, not including steam packing..... 1  
Babbitt metal and solder..... 5  
Bags, other than paper..... 9  
Bells..... 2  
Belting and hose, woven..... 4  
Bone, carbon, and lamp black..... 1

Boot and shoe cut stock..... 5  
Boot and shoe findings..... 6  
Butter, reworking..... 2  
Canning and preserving, fish..... 1  
Cash registers and calculating machines..... 9  
Clocks..... 2  
Clothing, horse..... 2  
Collars and cuffs, men's..... 2  
Combs and hairpins, not made from metal or rubber..... 1  
Cordage and twine..... 5

Cotton goods..... 3  
Cotton lace..... 1  
Cotton, small wares..... 2  
Dental goods..... 6  
Emery and other abrasive wheels..... 4  
Felt goods..... 2  
Firearms..... 1  
Fire extinguishers, chemical..... 1  
Fireworks..... 2  
Galvanizing..... 6  
Gloves and mittens, leather..... 6

Glucose and starch..... 2  
Glue, not elsewhere specified..... 5  
Gold and silver, reducing and refining, not from the ore..... 2  
Hardware, saddlery..... 4  
Hats, straw..... 3  
Iron, writing..... 2  
Iron and steel, doors and shutters..... 4  
Iron and steel, nails and spikes, cut and wrought, including wire nails..... 4  
Japanning..... 2

<sup>1</sup> Owned power only.

<sup>2</sup> Includes rented power, other than electric.

# MANUFACTURES—OHIO.

63

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manu- facture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horse-power generated in estab- lishments report- ing.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including in- ternal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam en- gines. <sup>1</sup>	In- ternal-com- bustion en- gines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rent- ed).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$4,600	\$4,635	\$28,888	\$580	\$6,880	\$391	\$25,062	\$962	\$108,661	\$82,637	53		5		48	1
36,332	31,036	237,867	5,294	19,131	1,876	203,170	19,586	747,335	524,579	952		35		917	2
389,166	404,325	3,484,887	1,500	38,463	94,242	3,360,208	142,491	9,990,696	6,487,997	7,172	3,819	2,109		1,244	3
267,083	305,614	2,848,006		19,750	67,723	2,354,199	119,666	7,261,140	4,787,275	5,483	2,938	1,519		1,026	4
122,083	98,711	636,881	1,500	18,713	26,519	1,006,009	22,825	2,729,556	1,700,722	1,689	881	590		218	5
259,354	480,622	2,265,949	5,936	145,996	58,354	4,826,911	85,587	9,990,903	5,078,405	3,476	1,970	238		1,268	6
433,645	1,187,559	4,678,237	131,854	32,334	150,398	12,360,572	243,732	22,615,795	10,011,491	16,155	8,007	1,993	51	6,104	7
31,897	61,845	209,395	5,972		19,296	809,994	67,043	2,051,307	1,174,270	3,520	3,445	75			8
31,556	31,301	161,340			10,841	352,543	49,892	862,284	459,849	2,042	1,020	240		782	9
17,452	31,941	76,045	15	6,700	4,060	132,078	1,608	423,379	289,698	45				45	10
21,956	37,576	104,453		6,290	2,419	582,177	3,655	938,702	352,870	153	20			133	11
39,969	30,686	658,563			22,439	9,386,144	56,599	10,826,098	1,383,355	1,330	607	333		390	12
154,622	234,926	1,244,967		19,141	46,992	4,834,686	44,425	7,595,606	2,716,495	2,222	1,175	287		760	13
119,903	376,901	553,098		33,779	3,281,047	4,747,004	41,250	11,228,328	6,440,074	1,432	605	10		847	14
416,067	424,891	4,798,776	11,408	159,405	2,100,894	7,089,009	39,509	17,238,751	10,110,233	581	70	75		436	15
252,745	328,585	1,330,250	7,020	11,788	60,248	1,429,412	94,244	5,187,996	3,664,340	5,364	2,839	923		1,602	16
46,850	36,198	233,615		1,044	8,929	482,080	27,267	973,006	463,659	1,186	381	443		362	17
119,362	240,457	849,132		1,980	44,734	595,799	39,013	3,200,179	2,565,367	3,321	2,400	73		848	18
86,533	51,930	247,503	7,020	8,764	6,585	351,533	27,964	1,014,811	635,314	857	58	407		392	19
56,330	64,206	520,163	579	12,479	11,871	779,120	19,919	1,908,700	1,109,661	941	455	255		231	20
49,449	24,285	172,267		14,394	4,753	293,549	4,407	678,355	380,399	271	175	4		92	21
26,150	76,882	100,803	500	16,410	3,705	475,818	4,103	836,093	356,082	184		138		46	22
293,442	347,254	263,120	2,119	10,793	37,600	2,401,943	28,671	4,502,503	2,071,889	1,012	570	25		417	23
60	520	7,125	5,353	50	98	9,571	261	25,395	15,563	40		40			24
1,600	2,810	11,891	400	1,549	372	56,796	1,072	98,677	40,809	330	253	45	15	17	25
1,100	2,810	7,919	400	1,044	246	47,520	386	74,889	26,983	58	27	14		17	26
500		3,972	205	126	9,276		686	23,788	13,826	272	226	31	15		27
30,837	28,301	66,823		1,200	2,267	251,228	7,652	450,387	191,507	221	180	30		11	28
73,652	94,518	370,077	6,846	28,478	13,714	645,546	124,443	1,713,618	943,629	3,617	2,140	355		1,122	29
12,678	30,824	90,721		9,172	3,266	345,144	2,612	712,851	365,095	416	200	204		12	30
23,188	16,295	153,801	250	8,558	1,848	203,408	6,015	560,884	351,821	512	260	149		103	31
20,928	14,711	145,063	250	7,490	1,547	195,764	5,484	517,867	316,619	460	260	132		68	32
2,260	1,584	8,738		1,068	301	7,284	531	43,017	35,202	52		17		35	33
126,008	90,727	455,950	40	15,984	18,408	2,138,042	29,103	3,434,551	1,267,406	1,281	240	286		755	34
40,076	34,363	123,248		5,380	5,360	1,302,698	4,811	1,802,413	494,904	146		98		48	35
85,932	56,364	332,702	40	10,604	13,048	835,344	24,292	1,632,138	772,502	1,135	240	188		707	36
36,299	21,202	119,191		2,630	6,377	574,920	9,608	937,326	352,798	446	260			186	37
112,186	35,455	520,103	8,161	6,757	17,613	1,269,721	16,526	2,284,105	997,858	4,250	3,682	410		158	38
10,250	5,745	68,077	50	2,209	831	115,887	4,350	253,999	133,762	415	265	73		77	39
34,700	25,140	255,035		160	14,176	778,783	40,879	1,353,121	533,459	1,410	1,190			220	40
2,422,725	3,220,765	15,908,266	48,987	197,264	777,534	54,900,193	1,036,420	100,593,500	44,656,887	65,189	44,353	3,272	240	17,324	41

Jewelry and instrument cases.....	2	Oilcloth, enameled.....	3	Rules, ivory and wood.....	1	Waste.....	1
Jute goods.....	1	Oleomargarine.....	2	Sand-lime brick.....	1	Watch and clock materials.....	2
Lasts.....	3	Paper patterns.....	3	Scales and balances.....	4	Watch cases.....	3
Lead, bar, pipe, and sheet.....	2	Peanuts, grading, roasting, cleaning, and shelling.....	3	Screws, wood.....	1	Watches.....	2
Locomotives, not made by railroad companies.....	1	Pens, fountain and stylographic.....	5	Sewing-machine cases.....	1	Wheelbarrows.....	4
Matches.....	4	Phonographs and graphophones.....	1	Silk goods, including throwsters.....	1	Whips.....	2
Musical instruments and materials, not specified.....	10	Plated ware.....	1	Silversmithing and silverware.....	2	Windmills.....	2
Needles, pins, and hooks and eyes.....	1	Pocketbooks.....	1	Soap.....	34	Window shades and fixtures.....	7
Oil, cottonseed, and cake.....	1	Pulp, from fiber other than wood.....	1	Soda-water apparatus.....	2	Wire.....	5
		Pulp goods.....	2	Typewriters and supplies.....	3	Wool pulling.....	2
				Upholstering materials.....	3	Woolen and worsted goods.....	12

\* Same number reported for one or more other months.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Fe-male.	Average number.	Number, 15th day of—			Male.	Fe-male.	Male.		Fe-male
								Maximum month.	Minimum month.						

## CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

1	<b>AKRON—All industries.....</b>	305	32,992	211	672	5,783	1,646	24,680	Ap. 28,774	Ja. 22,831	24,501	21,667	2,781	47	6	\$111,313,330
2	Artificial stone products.....	15	42	20	2	1	.....	19	My <sup>s</sup> 36	Ja <sup>s</sup> 7	30	30	.....	.....	.....	41,968
3	Automobile repairing.....	3	6	2	2	.....	.....	2	Se 3	Au 1	3	3	.....	.....	.....	8,375
4	Brass and bronze products.....	4	13	2	3	.....	1	7	My 10	Se <sup>s</sup> 5	6	6	.....	.....	.....	17,069
5	Bread and other bakery products.....	41	260	55	5	12	5	183	Jy 192	Ja <sup>s</sup> 169	189	145	43	1	.....	491,568
6	Brick, tile, terra-cotta and fire-clay products.....	9	657	1	20	15	5	616	Ap 677	Fe 572	626	626	.....	.....	.....	1,515,823
7	Carpets, rag.....	4	13	4	.....	.....	.....	9	Je <sup>s</sup> 16	De <sup>s</sup> 5	17	2	15	.....	.....	8,731
8	Carriages and wagons.....	8	125	10	6	6	3	100	De 131	Se 87	134	130	4	.....	.....	457,749
9	Confectionery and ice cream.....	10	79	7	4	8	2	58	Au 75	De 46	65	38	27	.....	.....	132,775
10	Copper, tin, and sheet-iron work.....	5	63	3	6	.....	1	53	Jy 70	Fe 36	53	53	.....	.....	.....	61,612
11	Foundry and machine-shop products.....	25	1,326	10	60	56	18	1,182	Ap 1,337	De 1,026	1,032	1,011	21	.....	.....	3,880,811
12	Foundries.....	5	194	.....	8	4	.....	182	Ap 207	Fe 162	186	186	.....	.....	.....	320,986
13	Machine shops.....	20	1,132	10	52	52	18	1,000	Ap 1,130	De 840	846	825	21	.....	.....	3,559,825
14	Gas and electric fixtures.....	3	26	2	2	4	1	17	Ap <sup>s</sup> 19	Jy 14	17	16	1	.....	.....	61,504
15	Liquors, malt.....	3	224	.....	16	21	3	184	Je 227	Ja 167	169	167	2	.....	.....	1,140,664
16	Lumber and timber products.....	13	445	9	30	30	9	367	Au 404	De 323	332	323	9	.....	.....	797,115
17	Mineral and soda waters.....	5	21	9	.....	3	.....	9	Je 12	Ja <sup>s</sup> 8	9	9	.....	.....	.....	24,143
18	Models and patterns, not including paper patterns.....	6	54	6	2	.....	1	45	Je 55	Mh 36	48	48	.....	.....	.....	56,612
19	Patent medicines and compounds.....	6	11	7	.....	.....	.....	4	De <sup>s</sup> 7	My <sup>s</sup> 2	8	4	4	.....	.....	14,585
20	Pottery, china, earthen and stoneware.....	6	464	1	14	13	4	432	Mh 469	Jy 200	417	356	61	.....	.....	786,133
21	Printing and publishing.....	37	1,000	25	36	108	31	800	Ja 879	Se 759	793	565	227	1	.....	1,857,807
22	Rubber goods, not elsewhere specified.....	18	24,231	1	341	4,980	1,441	17,468	Ap 21,033	Ja 15,493	17,578	15,655	1,896	23	4	83,182,054
23	Saddlery and harness.....	4	8	4	.....	.....	.....	4	( <sup>1</sup> ) 4	( <sup>1</sup> ) 4	4	4	.....	.....	.....	10,701
24	Stoves and hot-air furnaces.....	4	407	.....	10	26	9	362	Oc 406	Je 282	400	398	2	.....	.....	1,155,112
25	Tobacco, cigars.....	5	12	6	.....	.....	.....	6	( <sup>1</sup> ) 6	( <sup>1</sup> ) 6	6	6	.....	.....	.....	5,485
26	All other industries *.....	71	3,505	27	113	500	112	2,753	.....	.....	2,565	2,072	469	22	2	15,598,884

* All other industries embrace—	Brooms.....	1	Clothing, men's.....	2	Files.....	1
Agricultural implements.....	Brushes.....	1	Clothing, women's.....	1	Flavoring extracts.....	1
Automobile bodies and parts.....	Butter.....	1	Coffee, roasting and grinding.....	1	Food preparations, not elsewhere specified.....	3
Automobiles.....	Cars and general shop construction and repairs by steam-railroad companies.....	1	Cooperage.....	2	Fur goods.....	1
Awings, tents, and sails.....	China decorating, not including that done in potteries.....	1	Electrical machinery, apparatus, and supplies.....	3	Furniture.....	1
Baking powders.....	Cleansing and polishing preparations.....	1	Electroplating.....	2	Glass.....	1
Belting, leather.....			Engines, steam, gas, and water.....	1	Hand stamps.....	2
Bluing.....			Engraving and diesinking.....	1	Hardware.....	2
Boxes and cartons, paper.....						

1	<b>CANTON—All industries.....</b>	276	14,378	178	514	922	509	12,255	Oc 12,753	No 11,639	12,292	10,856	1,397	18	21	\$37,986,125
2	Artificial stone products.....	4	22	3	3	1	.....	15	Se 24	Fe 8	24	24	.....	.....	.....	11,679
3	Bread and other bakery products.....	25	193	28	18	13	3	131	No 135	Ja <sup>s</sup> 128	136	107	28	1	.....	187,070
4	Carriages and wagons.....	5	52	5	4	1	2	40	Je 44	Ja <sup>s</sup> 36	41	40	1	.....	.....	150,230
5	Confectionery and ice cream.....	12	85	10	11	4	3	57	Au 66	Mh <sup>s</sup> 49	65	41	24	.....	.....	109,089
6	Confectionery.....	9	57	8	8	1	2	38	No 44	Je 32	44	21	23	.....	.....	33,584
7	Ice cream.....	3	28	2	3	3	1	19	Jy <sup>s</sup> 27	Fe <sup>s</sup> 13	21	20	1	.....	.....	75,505
8	Foundry and machine-shop products.....	29	1,471	17	83	68	47	1,256	Ap 1,335	De 1,146	1,141	1,089	52	.....	.....	3,613,240
9	Iron and steel, steel works and rolling mills.....	6	4,253	.....	44	302	108	3,799	Oc 4,142	Fe 3,436	4,008	3,928	80	.....	.....	13,618,244
10	Lumber, planing-mill products, not including planing mills connected with sawmills.....	8	64	5	11	6	3	39	Oc 43	Mh <sup>s</sup> 37	38	38	.....	.....	.....	105,445
11	Mineral and soda waters.....	4	21	2	4	1	1	13	Je <sup>s</sup> 16	De <sup>s</sup> 11	10	9	.....	1	.....	44,937
12	Patent medicines and compounds.....	4	34	2	9	6	2	15	Au <sup>s</sup> 16	Fe 13	16	3	13	.....	.....	46,874
13	Printing and publishing, book and job.....	15	98	19	10	2	3	64	Oc 69	Ap 60	67	55	12	.....	.....	78,164
14	Printing and publishing, newspapers and periodicals.....	6	349	.....	17	73	72	187	De 199	Jy 179	198	134	60	2	2	363,431
15	Roofing materials, metal shingles, ceilings, etc.....	3	253	.....	10	27	15	206	Oc 234	My 189	205	205	.....	.....	.....	827,729
16	Signs and advertising novelties.....	7	61	.....	5	4	5	42	My 46	No <sup>s</sup> 40	40	21	17	.....	2	32,597
17	Structural ironwork, not made in steel works or rolling mills.....	5	306	.....	19	27	11	249	Se 279	De 154	266	266	.....	.....	.....	875,247
18	Tobacco, cigars.....	16	63	15	7	.....	1	40	De 43	My 32	45	21	23	.....	1	20,718
19	All other industries *.....	127	7,053	72	259	387	233	6,102	.....	.....	5,992	4,875	1,037	14	16	17,900,831

* All other industries embrace—	Canning and preserving, fruits and vegetables.....	1	Cordials and flavoring sirups.....	1	Furniture.....	5
Agricultural implements.....	Carpets, rag.....	2	Cutlery and edge tools.....	3	Gas and electric fixtures.....	2
Automobile repairing.....	Carriage and wagon materials.....	1	Dairyman's, poultryman's, and apiarists' supplies.....	1	Hardware.....	2
Awings, tents, and sails.....	Cars and general shop construction and repairs by electric-railroad companies.....	1	Electrical machinery, apparatus, and supplies.....	2	House furnishing goods, not elsewhere specified.....	2
Bells.....	Cleansing preparations.....	1	Electroplating.....	4	Ice, manufactured.....	1
Boxes, fancy and paper.....	Clothing, women's.....	2	Engraving, steel and copper plate, including plate printing.....	1	Iron and steel, doors and shutters.....	1
Boxes, wooden packing.....	Coffee, roasting and grinding.....	2	Flour-mill and gristmill products.....	3	Iron and steel forgings, not made in steel works or rolling mills.....	2
Brass and bronze products.....	Copper, tin, and sheet-iron work.....	3				

\* Owned power only.

\* Includes rented power, other than electric.

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$2,153,953	\$5,090,587	\$17,310,415	\$41,231	\$83,928	\$1,209,936	\$64,789,216	\$1,273,176	\$122,291,600	\$56,229,208	65,942	51,722	3,286	95	10,839	39,610	1
1,500	300	12,830	.....	1,068	342	15,439	435	44,190	28,316	37	6	16	.....	15	.....	2
3,120	.....	1,475	.....	276	43	2,635	241	15,965	13,089	1,740	455	.....	.....	1,285	.....	3
2,818	121	5,561	.....	520	122	17,214	779	29,322	11,329	24	.....	12	.....	12	.....	4
14,341	21,427	125,926	.....	16,015	2,698	423,905	19,084	718,877	275,888	280	.....	18	.....	262	.....	5
35,277	24,743	361,009	7,500	1,383	14,183	120,895	217,480	994,430	656,055	2,070	1,985	10	.....	75	157	6
.....	.....	3,064	.....	360	72	2,237	56	8,373	6,080	2	.....	1	.....	1	.....	7
13,250	7,200	74,543	720	3,048	2,767	51,057	2,453	193,103	139,593	194	75	88	.....	31	20	8
4,420	6,476	30,567	.....	4,721	519	117,544	1,621	211,100	91,935	59	.....	31	.....	28	.....	9
6,732	1,075	42,676	.....	3,680	907	58,665	1,556	132,167	71,886	27	.....	10	.....	17	.....	10
121,774	80,617	873,085	.....	7,449	34,541	1,111,989	51,418	2,860,639	1,697,232	2,808	1,015	1,203	40	550	1,399	11
8,000	2,560	155,617	.....	3,167	183,711	9,528	9,528	402,136	208,897	233	75	55	.....	103	39	12
113,774	78,057	717,463	.....	7,449	31,374	928,278	41,890	2,458,503	1,488,335	2,575	940	1,148	40	447	1,360	13
1,950	5,814	10,555	.....	3,942	167	40,025	800	92,890	52,065	14	.....	11	.....	3	.....	14
75,990	23,334	136,184	.....	180,023	276,029	32,117	1,352,045	1,043,899	1,732	1,475	253	.....	.....	4	188	15
67,293	29,363	245,432	.....	4,410	8,062	875,457	7,736	1,326,093	442,900	1,280	975	245	.....	60	.....	16
.....	1,800	7,840	.....	360	325	11,923	344	44,138	31,871	20	4	9	.....	7	.....	17
3,240	520	38,556	200	1,100	445	12,496	996	71,192	57,700	65	.....	55	.....	10	2	18
.....	.....	809	.....	480	49	4,450	99	14,794	10,245	10	.....	.....	.....	10	.....	19
27,699	18,877	251,481	.....	.....	8,009	120,468	56,325	493,957	317,164	896	810	86	.....	.....	81	20
104,510	121,091	534,203	27,426	15,878	16,363	663,882	20,790	1,938,085	1,253,413	1,027	360	131	.....	536	.....	21
1,329,011	4,074,084	12,296,090	.....	2,580	827,955	48,419,409	643,928	92,547,496	43,484,159	43,886	37,178	242	.....	6,466	32,572	22
.....	.....	3,261	.....	1,290	60	5,737	102	58,987	13,148	3	.....	.....	.....	3	.....	23
18,760	34,973	263,785	.....	720	15,084	218,968	9,140	887,506	659,398	900	400	400	.....	100	450	24
.....	.....	3,185	.....	442	1,405	2,933	54	14,165	11,178	.....	.....	.....	.....	.....	.....	25
319,268	638,772	1,988,298	5,385	14,206	95,715	12,215,859	205,622	18,282,146	5,860,665	8,868	6,984	465	55	1,364	4,741	26

Hardware, saddlery.....	1	Monuments and tombstones.....	1	Pens, fountain and stylographic.....	1	Steam packing.....	1
Hats, fur-felt.....	1	Musical instruments and materials, not specified.....	1	Photo-engraving.....	1	Structural ironwork, not made in steel works or rolling mills.....	2
Hosiery and knit goods.....	1	Musical instruments, pianos.....	1	Pickles, preserves, and sauces.....	1	Surgical appliances.....	1
Ice, manufactured.....	1	Oilcloth, enameled.....	1	Shipbuilding, wooden, including boat building.....	1	Toys and games.....	2
Ink, printing.....	1	Optical goods.....	1	Signs and advertising novelties.....	3	Wirework.....	1
Iron and steel, steel works and rolling mills.....	1	Paper and wood pulp, paper mills exclusively.....	1	Slaughtering and meat packing.....	2	Wood, turned and carved.....	1
Jewelry.....	1	.....	.....	Sporting and athletic goods.....	2	.....	.....
Mattresses and spring beds.....	1	.....	.....	.....	.....	.....	.....

\$1,109,004	\$1,346,183	\$8,549,945	\$66,457	\$80,105	\$314,870	\$20,512,935	\$1,295,151	\$43,713,446	\$21,905,360	43,071	25,081	3,701	58	14,231	4,702	1
3,760	1,040	9,495	.....	925	60	6,480	110	30,342	23,752	13	.....	5	.....	8	.....	2
17,561	13,392	66,226	.....	2,658	1,134	195,114	8,170	420,716	217,432	116	.....	16	3	113	.....	3
4,400	1,550	23,700	.....	180	650	20,520	1,453	74,240	52,262	61	.....	.....	.....	45	.....	4
10,241	5,646	35,141	.....	2,924	691	62,016	3,422	179,048	114,210	114	.....	65	.....	49	.....	5
7,191	2,087	22,126	.....	2,684	323	35,413	1,273	87,576	50,590	35	.....	15	.....	20	.....	6
3,050	3,559	13,015	.....	240	368	26,603	2,149	92,072	63,320	79	.....	50	.....	29	.....	7
204,750	126,120	822,718	38,763	12,592	29,181	1,289,170	71,677	5,760,113	4,399,266	1,921	380	88	.....	1,453	223	8
132,657	395,047	3,245,445	2,742	.....	65,210	9,611,384	597,585	16,887,269	6,678,300	28,428	17,225	2,756	.....	8,447	2,397	9
12,135	5,331	27,924	.....	210	691	44,877	1,792	111,981	65,312	231	65	80	.....	86	6	10
5,100	1,528	7,480	.....	120	307	20,847	464	45,458	24,147	11	.....	.....	.....	11	.....	11
9,113	11,256	6,699	.....	968	682	58,554	224	169,716	110,938	5	.....	.....	.....	5	.....	12
12,946	2,763	39,796	508	5,734	325	81,874	1,844	123,309	89,591	51	.....	.....	.....	51	.....	13
64,505	87,881	153,372	150	4,833	4,144	265,164	5,606	652,406	381,636	224	.....	.....	.....	224	.....	14
21,817	29,562	120,749	126	1,200	5,649	453,446	5,994	722,839	263,399	280	110	.....	.....	170	.....	15
5,600	4,189	23,947	.....	2,956	101	17,983	226	70,616	52,407	5	.....	.....	.....	5	.....	16
43,217	37,689	154,547	.....	560	5,112	723,721	11,898	1,038,804	303,185	625	115	85	.....	425	250	17
4,175	210	16,544	.....	984	9,202	27,124	195	64,622	37,303	.....	.....	.....	.....	.....	.....	18
557,027	622,979	3,796,162	24,169	43,261	191,731	7,684,661	584,486	17,361,367	9,092,220	10,986	7,186	606	55	3,139	1,826	19

Lamps and reflectors.....	2	Photo-engraving.....	1	Slaughtering and meat packing.....	1	Surgical appliances.....	2
Leather goods, not elsewhere specified.....	2	Plumbers' supplies, not elsewhere specified.....	2	Soap.....	1	Tin plate andterneplate.....	1
Liquors, malt.....	3	Pumps.....	1	Springs, steel, car and carriage.....	1	Tools, not elsewhere specified.....	4
Marble and stone work.....	2	Pottery.....	1	Stamped and enameled ware, not elsewhere specified.....	2	Toys and games.....	1
Mattresses and spring beds.....	2	Rubber goods, not elsewhere specified.....	3	Steam fittings and steam and hot-water heating apparatus.....	5	Trunks and valises.....	1
Minerals and earths, ground.....	1	Saddlery and harness.....	4	Stereo-typing and electroplating.....	1	Umbrellas and canes.....	1
Models and patterns, not including paper patterns.....	1	Saws.....	1	Stoves and hot-air furnaces.....	2	Watch cases.....	1
Muchage and paste.....	1	Shirts.....	1	Sulphuric, nitric, and mixed acids.....	1	Watches.....	1
Paints.....	2	.....	.....	.....	.....	Window and door screens.....	1
.....	.....	.....	.....	.....	.....	Wirework.....	3

\* Same number reported for one or more other months.

\* Same number reported throughout the year.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.							WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.			
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Average number.	Wage earners.		Total.	16 and over.		Under 16.					
					Male.	Female.		Number, 15th day of—			Male.	Female.	Male.	Female.				
								Maximum month.	Minimum month.									
<b>CINCINNATI—All industries....</b>	<b>2,135</b>	<b>72,858</b>	<b>1,898</b>	<b>2,802</b>	<b>5,848</b>	<b>2,449</b>	<b>59,861</b>	<b>Fe 62,782</b>	<b>Oc 57,139</b>	<b>59,872</b>	<b>44,999</b>	<b>14,512</b>	<b>228</b>	<b>133</b>	<b>\$157,463,150</b>			
Artificial limbs.....	7	19	7	1	1	1	9	Ap 11	No 7	11	10	1	.....	.....	8,348			
Automobiles.....	6	336	3	14	26	5	288	Ap 455	Oc 136	440	440	.....	.....	.....	605,363			
Automobile repairing.....	17	92	19	4	2	4	63	Oc 68	Ja 55	66	66	.....	.....	.....	77,092			
Awnings, tents, and sails.....	6	71	5	6	4	4	50	My 68	Ja 40	45	24	21	.....	.....	152,453			
Bags, paper.....	5	399	.....	23	27	14	335	Oc 357	Ap 316	331	103	162	.....	6	629,583			
Belting, leather.....	3	59	.....	10	13	4	32	Ja 34	No 30	30	30	.....	.....	.....	305,446			
Blacking, stains, and dressings.....	3	20	7	1	4	1	7	Ja 7	Je 7	7	7	.....	.....	.....	19,559			
Bookbinding and blank-book making.....	25	272	28	5	4	7	228	Mh 244	Au 208	224	114	105	1	4	169,770			
Boots and shoes.....	26	7,860	4	165	277	285	7,129	Fe 7,878	Ap 5,634	7,302	4,358	2,856	43	45	9,002,697			
Boxes, cigar.....	5	152	8	2	3	.....	139	Fe 154	Se 128	139	72	67	.....	.....	154,014			
Boxes, fancy and paper.....	17	880	7	38	51	31	753	Ja 774	Jy 728	748	212	531	1	4	642,635			
Boxes, wooden packing.....	8	271	7	10	5	5	244	Oc 266	Au 223	224	221	.....	3	.....	396,521			
Brass, bronze, and copper products.....	12	647	13	21	45	12	556	Ja 628	De 479	481	473	8	.....	.....	1,470,344			
Bread and other bakery products.....	177	2,187	182	49	204	83	1,669	Oc 1,733	Ja 1,558	1,717	1,292	423	2	.....	4,062,050			
Brick, tile, pottery, and other clay products.....	10	341	7	23	8	16	287	Je 352	Fe 220	284	250	34	.....	.....	643,480			
Brooms, from broom corn.....	6	52	12	.....	4	.....	36	Ja 37	Jy 34	37	37	.....	.....	.....	19,515			
Carriage and wagon materials.....	14	700	9	27	22	18	624	Mh 770	Jy 428	606	579	21	4	2	1,690,496			
Carriages and wagons.....	61	1,444	61	83	118	45	1,137	Mh 1,379	Oc 880	904	927	36	1	.....	3,122,376			
Carriages and wagons.....	46	1,336	46	79	111	44	1,056	Mh 1,296	Oc 800	884	847	36	1	.....	3,010,646			
Repair work only.....	15	108	15	4	7	1	81	Mh 83	My 79	80	80	.....	.....	.....	111,730			
Cars and general shop construction and repairs by steam-railroad companies.....	6	807	.....	2	57	1	747	Fe 809	De 660	729	724	5	.....	.....	593,733			
Chemicals.....	11	149	6	20	29	13	81	Jy 90	Fe 69	79	79	.....	.....	.....	560,327			
Cleansing and polishing preparations.....	7	64	6	8	22	8	20	Mh 25	Au 18	18	12	6	.....	.....	82,966			
Clothing, men's.....	105	5,826	127	83	536	178	4,402	Ap 4,677	De 4,108	4,486	1,652	2,791	8	36	7,671,834			
Regular factories.....	44	4,179	55	79	530	173	3,342	Ap 3,554	De 3,065	3,409	1,415	1,989	3	2	7,488,221			
Men's and youths'.....	44	4,179	55	79	530	173	3,342	Ap 3,554	De 3,065	3,409	1,415	1,989	3	2	7,488,221			
Contract work.....	61	1,147	72	4	6	5	1,060	Ap 1,122	Ja 987	1,077	237	802	5	33	83,613			
Men's and youths'.....	57	1,097	67	4	6	5	1,015	Ap 1,077	Ja 942	1,030	223	799	5	33	81,833			
Boys'.....	4	50	5	.....	.....	.....	45	De 47	Au 43	47	14	33	.....	.....	1,780			
Clothing, men's, buttonholes.....	7	68	9	1	.....	.....	58	Ja 61	Jy 53	53	9	44	.....	.....	9,035			
Clothing, women's.....	26	1,339	39	33	85	45	1,137	Au 1,259	De 892	1,054	351	700	.....	3	1,239,585			
Coffee and spice, roasting and grinding.....	7	334	3	20	71	13	227	Mh 239	Ja 203	227	112	115	.....	.....	1,070,069			
Confectionery.....	21	1,143	22	38	96	78	909	Oc 1,245	Jy 690	1,065	442	603	11	9	1,159,030			
Cooperage and wooden goods, not elsewhere specified.....	20	565	22	22	5	8	508	Mh 607	Jy 387	447	445	2	.....	.....	1,057,503			
Copper, tin, and sheet-iron work.....	41	750	35	62	67	53	533	Fe 583	De 492	504	500	.....	4	.....	1,804,502			
Cutlery and tools, not elsewhere specified.....	9	143	8	10	16	8	101	Ap 111	Se 87	80	79	1	.....	.....	204,555			
Electrical machinery, apparatus, and supplies.....	16	454	9	27	79	20	319	Oc 343	Jy 290	322	293	28	1	.....	991,327			
Electroplating.....	5	71	5	4	4	3	55	Mh 58	Se 51	57	55	1	1	.....	32,404			
Engraving and diecasting.....	14	75	16	1	.....	1	57	Fe 60	Jy 56	60	46	13	.....	1	37,025			
Engraving, steel and copper plate, including plate printing.....	4	86	3	3	9	1	70	Je 79	Mh 64	71	58	7	3	3	35,135			
Flavoring extracts.....	10	107	10	6	13	35	43	Je 55	No 33	44	26	18	.....	.....	229,908			
Flour-mill and gristmill products.....	7	74	4	7	13	7	43	(*) 43	(*) 43	43	40	3	.....	.....	543,655			
Food preparations, not elsewhere specified.....	12	89	8	10	5	6	60	Au 68	Se 50	67	56	11	.....	.....	190,803			
Foundry and machine-shop products.....	170	8,237	113	386	650	187	6,901	Ja 7,651	Se 5,360	6,878	6,829	44	5	.....	20,230,522			
Fur goods.....	5	42	3	2	.....	1	36	No 43	Mh 31	29	16	13	.....	.....	59,740			
Furnishing goods, men's.....	5	136	6	7	18	4	131	Oc 154	Ap 112	113	115	98	.....	.....	93,995			
Furniture and refrigerators.....	52	2,002	66	92	100	31	1,713	Ja 1,890	Jy 1,485	1,541	1,457	21	62	1	3,155,631			
Glass, cutting, staining, and ornamenting.....	7	207	5	14	14	6	168	Ja 181	Je 156	175	129	46	.....	.....	200,050			
Grease and tallow, not including lubricating greases.....	6	172	7	4	2	1	158	Au 165	De 152	152	152	.....	.....	.....	215,189			
Hand stamps.....	3	17	1	3	2	3	8	(*) 8	(*) 8	8	8	.....	.....	.....	10,842			
Hats and caps, other than felt, straw, and wool.....	14	293	21	10	14	9	239	Ja 265	Se 186	250	79	169	.....	2	239,037			
Ice, manufactured.....	14	288	2	25	25	6	230	Jy 316	Ja 157	219	218	1	.....	.....	1,954,421			
Instruments, professional and scientific.....	3	9	3	2	.....	.....	4	(*) 4	(*) 4	4	4	.....	.....	.....	6,850			
Jewelry.....	24	400	43	17	29	23	288	De 297	Au 281	297	251	40	6	.....	467,814			
Leather, tanned, curried, and finished.....	12	817	13	22	24	3	755	Fe 859	De 655	782	782	.....	.....	.....	3,210,193			
Liquors, malt.....	20	2,001	.....	82	185	7	1,727	Jy 1,901	Ja 1,621	1,665	1,660	5	.....	.....	15,321,596			
Lithographing.....	10	461	5	20	33	20	383	Fe 398	Au 358	396	341	54	1	.....	1,202,104			
Looking-glass and picture frames.....	4	266	1	11	33	2	219	Ap 238	Ja 155	211	202	9	.....	.....	524,538			
Lumber and timber products.....	6	594	4	17	19	7	547	My 653	Oc 444	564	554	10	.....	.....	1,136,167			
Lumber, planing-mill products, not including planing mills connected with sawmills.....	23	476	20	37	39	5	375	Au 403	Fe 337	375	375	.....	.....	.....	953,253			

\* Owned power only.

\* Includes rented power, other than electric.



## MANUFACTURES—OHIO.

67

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manu- facture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Elec- tric horse- power gen- erated in estab- lish- ments report- ing.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, includ- ing in- ternal revenue and cor- poration income.	Principal materials.	Fuel and rent of power.			Total.	Steam en- gines. <sup>1</sup>	In- ternal- com- bus- tion en- gines. <sup>2</sup>	Water wheels and mo- tors. <sup>1</sup>	Elec- tric (rent- ed).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$6,927,139	\$8,324,937	\$33,159,083	\$1,859,195	\$1,996,053	\$8,026,537	\$11,908,350	\$2,198,284	\$210,860,386	\$96,753,752	106,689	73,625	9,046	75	23,943	27,065	1
900	625	5,837	689	2,134	69	7,408	193	42,454	34,853	5	365	4		1	2	2
30,520	29,109	220,838	553	3,000	5,702	595,433	6,581	846,725	244,711	384				19	60	3
4,900	2,572	41,205	968	6,450	783	32,052	1,263	116,156	82,841	70		14		56		4
10,770	9,008	25,738		4,379	792	125,643	1,146	217,800	91,011	30				30		5
61,991	38,832	148,909	938	28,820	4,798	744,243	9,701	1,262,801	508,857	603	400	90		113	331	6
18,080	13,751	24,079		2,921	2,168	187,814	1,675	257,900	68,411	119	60			59		7
2,600	8,060	5,824		1,152	72	44,972	170	76,500	31,358	10		5		5		8
8,740	11,664	118,165	820	18,423	1,524	97,929	2,941	346,538	245,668	114		2		112		9
446,892	639,906	3,634,968	3,925	95,472	51,280	7,655,583	56,989	14,525,078	6,812,506	4,115	3,555	355		205	2,481	10
3,800	2,432	62,150		8,570	923	102,509	3,648	226,188	120,031	268	240			28	60	11
62,188	33,054	263,343	60	30,258	3,514	476,273	11,005	1,015,741	528,463	570	230	140		200	75	12
15,863	7,238	133,029	1,340	7,215	4,408	367,685	6,868	647,257	272,704	973	900	10		63	6	13
55,260	59,339	346,143	660	6,521	9,778	486,695	19,415	1,186,702	680,592	708	472	152		84	348	14
122,722	247,360	924,539		79,167	33,173	3,596,418	94,157	6,385,676	2,695,101	1,524	687	6		831	397	15
38,859	23,275	171,376		2,789	5,171	50,111	35,448	390,859	305,300	749	630	60		59	77	16
	2,946	22,065		2,008	194	66,465	1,622	131,867	63,780	32				32		17
60,691	34,244	402,180		28,796	10,248	909,364	18,686	1,713,063	785,013	1,412	1,255	85		72	53	18
106,452	143,985	800,793	9,565	59,732	22,079	2,171,657	26,725	3,851,998	1,653,616	1,376	875	111		390	221	19
155,792	142,425	747,142	9,542	51,700	20,546	2,127,678	24,009	3,694,537	1,542,850	1,309	875	111		323	221	20
9,660	1,560	53,651	23	8,032	1,533	43,979	2,716	157,461	110,766	67				67		21
3,744	59,791	563,855		1,890	307,663		33,713	970,656	629,280	1,023	790	18		215	328	22
34,306	39,829	50,707		6,481	5,822	331,603	30,033	618,143	256,507	493	377	60		56	13	23
26,740	18,280	7,818		5,154	900	71,807	1,298	204,660	131,555	36				36		24
284,275	820,418	2,292,709	1,048,012	202,156	25,404	6,487,227	22,902	13,333,110	6,822,981	983	370	7		606	128	25
279,439	807,781	1,900,904	1,035,875	191,934	24,164	6,481,357	17,138	12,748,541	6,250,046	877	370			507	122	26
279,439	807,781	1,900,904	1,035,875	191,934	24,164	6,481,357	17,138	12,748,541	6,250,046	877	370			507	122	27
4,836	12,637	391,805	12,137	10,222	1,240	5,764	5,764	584,569	572,935	106		7		99	6	28
4,836	12,637	373,140	12,137	9,544	1,203	5,846	5,118	559,602	548,638	84		7		77	6	29
		18,665		678	37	24	646	24,967	24,297	22				22		30
780		21,289		720	353	7,825	245	41,182	33,112	9				9		31
79,121	163,241	616,107		52,078	3,614	1,362,769	7,317	2,566,569	1,196,483	167				167		32
58,500	99,807	106,981		17,861	6,444	1,771,117	11,043	2,286,048	503,888	657	200	245		212	385	33
88,252	133,906	344,534		44,271	8,767	1,356,390	20,143	2,343,292	966,759	930	680	150		100	587	34
50,149	8,046	298,455	200	8,305	10,877	707,476	26,761	1,247,302	513,065	1,446	1,275	95		76	366	35
126,109	98,246	358,856	2,189	18,295	12,058	1,698,123	10,898	2,779,081	1,070,060	632		447		185	40	36
54,126	24,387	95,196		3,016	1,624	127,659	9,221	390,913	254,033	518	175	80		263		37
64,930	95,748	191,438	75	16,080	6,283	458,147	10,765	901,895	432,983	329		146		183	38	38
7,370	4,328	39,089		4,151	960	12,770	1,754	81,426	66,902	112		35		77		39
1,100	480	30,720	4,000	3,906	108	11,439	259	79,538	67,940	11				11		40
5,460	5,793	44,279		3,240	64	17,001	995	93,252	75,256	19				19		41
8,360	26,409	21,925	272	4,645	781	188,184	1,880	439,197	249,133	57	40			17		42
15,266	16,895	34,855		6,136	4,031	1,026,681	9,636	1,152,502	116,185	725	500	180		45	90	43
8,022	6,365	32,069	85	3,935	1,289	215,812	2,335	312,652	94,505	187	125	35		27	14	44
955,256	809,424	4,411,238	39,761	156,224	148,926	5,505,135	232,396	15,319,472	9,581,941	13,154	6,212	1,823		5,119	3,544	45
4,000	260	24,058		5,160	184	21,952	632	71,072	48,488	18				18		46
18,190	24,667	55,888	14,188	4,602	750	231,818	314	372,270	140,138	7				7		47
177,204	106,290	1,006,707	1,248	60,504	26,819	1,564,116	41,940	3,513,554	1,907,498	3,450	2,805	320		325	854	48
28,144	13,724	95,254		4,660	1,026	141,400	2,470	297,215	153,345	88		43		45		49
6,152	2,824	103,922	62	1,392	697	138,309	20,181	319,100	160,610	397	282			115		50
3,516	2,000	3,885	500	1,840	98	6,485	229	20,984	14,270	3				3		51
23,080	18,902	121,351		14,348	1,199	840,511	3,324	607,699	263,864	29				29		52
41,736	25,303	154,654		4,170	18,837	55,312	117,070	471,855	299,473	5,048	5,030			18	442	53
1,404		3,443		680	75	10,121	36	10,121	8,805	4				4		54
40,648	28,789	192,547		19,776	1,861	222,907	2,631	728,691	503,153	213				213		55
53,983	27,875	474,350		5,750	40,998	3,900,416	53,885	5,425,725	1,471,424	2,382	2,310	50		22	1,172	56
348,728	306,464	1,549,082		2,733	1,853,447	2,671,742	272,155	10,352,807	7,408,910	13,114	12,800	302		12	2,254	57
61,120	58,712	294,967	5,153	12,279	8,375	220,487	8,976	831,525	602,062	462	120	18		324		58
24,618	43,438	146,318		4,941	3,898	135,521	4,869	431,059	290,669	330	305			25	10	59
35,465	28,571	322,503	4,457	8,112	13,824	619,389	6,066	1,126,531	501,076	1,420	1,380	40			29	60
88,653	49,174	291,720		8,903	10,754	806,809	11,155	1,472,296	654,332	1,564	1,330	87		147	973	61

<sup>1</sup> Same number reported for one or more other months.<sup>2</sup> Same number reported throughout the year.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

CITIES OF 50,000 INHABITANT OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

<b>CINCINNATI—Continued.</b>															
1 Marble and stone work.....	27	408	28	25	24	4	327	My	380	Jy	287	360	358	2	\$653,991
2 Mattresses and spring beds.....	10	109	13	4	4	4	84	Ap	87	De	78	78	52	26	170,647
3 Millinery and lace goods.....	9	366	4	18	32	19	293	Fe	449	No	151	342	29	313	132,444
4 Mineral and soda waters.....	12	154	14	6	18	.....	116	Jy	133	De	103	105	105	.....	207,638
5 Models and patterns, not including paper patterns.....	19	183	18	12	12	1	140	Je	153	Oc	123	140	139	.....	238,497
6 Optical goods.....	5	49	1	4	3	5	36	Au <sup>a</sup>	37	De	34	34	31	3	56,228
7 Paints.....	16	571	14	41	116	35	365	Je	389	No	336	351	343	8	4,028,062
8 Patent medicines and compounds, and druggists' preparations.....	37	414	31	25	90	40	228	Mh	248	Se	217	220	144	76	1,010,607
9 Photo-engraving.....	8	240	5	15	19	10	191	Je	201	No	183	185	180	5	152,605
10 Plumbers' supplies, not elsewhere specified.....	5	513	5	16	55	7	430	Fe	480	No	393	405	403	1	1,269,731
11 Printing and publishing, book and job	164	2,964	164	147	183	111	2,359	No	2,441	Ap	2,267	2,399	1,763	623	4,287,076
12 Printing and publishing, music.....	8	114	7	13	33	9	47	Ap	52	Au <sup>a</sup>	42	42	38	4	147,768
13 Printing and publishing, newspapers and periodicals.....	96	1,902	59	92	537	227	987	De	1,042	Se	964	1,042	956	85	3,993,935
14 Printing and publishing.....	10	1,054	5	35	368	62	584	De	606	Se	573	606	595	11	2,024,239
15 Printing, publishing, and job printing.....	17	663	11	24	118	109	401	De	434	Jy <sup>a</sup>	386	434	360	73	1,853,062
16 Publishing without printing.....	69	185	43	33	51	56	2	( <sup>a</sup> )	2	( <sup>a</sup> )	2	2	1	1	116,634
17 Rubber goods, not elsewhere specified	3	14	3	4	.....	2	5	( <sup>a</sup> )	5	( <sup>a</sup> )	5	5	5	.....	1,082
18 Saddlery and harness.....	9	525	10	25	75	9	406	De	547	Mh	359	539	499	18	1,593,946
19 Shirts.....	10	1,195	3	27	65	25	1,075	Mh	1,257	Se	929	962	68	891	622,167
20 Signs and advertising novelties.....	7	191	3	11	13	5	159	Jy	169	Oc	150	163	110	51	260,866
21 Slaughtering and meat packing.....	47	1,410	65	73	118	28	1,126	De	1,282	Ap	1,065	1,284	1,245	39	4,378,022
22 Statuary and art goods.....	3	63	2	2	3	3	53	De	60	Jy	19	60	51	9	118,384
23 Steam fittings and steam and hot- water heating apparatus.....	6	1,407	4	28	226	68	1,081	Se	1,102	My	1,041	1,095	1,088	7	3,355,004
24 Stencils and brands.....	7	37	6	1	2	4	24	Mh <sup>a</sup>	25	Ap	22	25	25	.....	43,621
25 Stoves and hot-air furnaces, includ- ing gas and oil stoves.....	12	836	2	46	61	42	685	Fe	735	Jy	633	668	664	4	1,831,415
26 Structural ironwork, not made in steel works or rolling mills.....	16	369	15	20	24	12	298	Jy	334	De	252	253	253	.....	564,403
27 Suspenders, garters, and elastic woven goods.....	5	140	5	5	4	11	115	Au	144	Ja	61	102	5	97	89,012
28 Tobacco manufactures.....	160	2,432	178	42	101	24	2,087	Ja	2,203	Je	2,001	2,081	885	1,194	2,269,564
29 Varnishes.....	9	111	4	17	29	9	52	( <sup>a</sup> )	52	( <sup>a</sup> )	52	52	51	1	546,074
30 Wire work, including wire rope and cable.....	9	123	2	12	6	6	97	Ja	114	Oc	84	103	103	.....	277,905
31 All other industries*.....	302	12,124	209	481	876	401	10,157	.....	.....	.....	.....	10,056	8,080	1,939	30,598,537

*All other industries embrace—		Canning and preserving, fruits and		Cotton small wares.....	1	Glue, not elsewhere specified.....	3
Aluminum ware.....	1	vegetables.....	1	Dental goods.....	1	Gold and silver, reducing and refin-	
Artificial stone products.....	2	Carpets, rag.....	3	Dyeing and finishing textiles.....	1	ing, not from the ore.....	2
Automobile bodies and parts.....	5	Carriages and sleds, children's.....	1	Enameling.....	2	Hair work.....	2
Babbitt metal and solder.....	3	Cars and general shop construction		Engines, steam, gas, and water.....	5	Hardware.....	2
Bags, other than paper.....	1	and repairs by electric-railroad com-		Engraving, wood.....	2	Hats, fur-felt.....	3
Baking powders.....	4	panies.....	3	Envelopes.....	1	Hats, straw.....	5
Baskets, and rattan and willow		Cars, electric-railroad, not including		Fancy articles, not elsewhere speci-		Hosiery and knit goods.....	4
ware.....	3	operations of railroad companies.....	1	fied.....	1	House-furnishing goods, not elsewhere	
Bells.....	1	Cash registers and calculating ma-		Fire extinguishers, chemicals.....	1	specified.....	6
Belting and hose, woven.....	1	chines.....	1	Flags and banners.....	3	Ink, printing.....	6
Billiard tables and materials.....	2	Clocks.....	1	Foundry supplies.....	3	Ink, writing.....	1
Bluing.....	1	Cloth, sponging and refinishing.....	3	Galvanizing.....	1	Iron and steel, steel works and rolling	
Boot and shoe cut stock.....	3	Coffins, burial cases, and undertakers'		Gas and electric fixtures.....	1	mills.....	1
Boot and shoe findings.....	5	goods.....	5	Gas machines and gas and water me-		Iron and steel, bolts, nuts, washers,	
Brushes.....	5	Coke, not including gas-house coke.....	1	ters.....	3	and rivets, not made in steel works	
Butter.....	5	Confectionery (ice cream).....	9	Glass.....	1	or rolling mills.....	1
Buttons.....	1	Cotton goods.....	1	Glucose and starch.....	1		

<b>CLEVELAND—All industries.....</b>															
2 Artificial stone products.....	15	148	12	8	7	3	118	My	155	Oc	90	114	114	.....	191,328
3 Automobile bodies and parts.....	28	1,800	15	56	139	25	1,565	Je	1,808	De	1,378	1,411	1,411	6	3,950,737
4 Automobiles.....	8	6,177	.....	99	453	184	5,441	De	6,899	Se	4,666	6,899	6,832	67	19,682,303
5 Automobile repairing.....	10	63	8	7	1	3	44	De	51	Ja	36	52	51	1	73,378
6 Awnings, tents, and sails.....	8	294	4	17	26	14	233	Je	366	De	152	227	124	103	370,991
7 Blacking, stains, and dressings.....	4	29	4	4	6	3	12	( <sup>a</sup> )	12	( <sup>a</sup> )	12	12	7	5	41,897
8 Bookbinding and blank-bookmaking.....	17	226	21	11	5	6	183	My	190	Oc	174	188	118	69	149,990
9 Boxes, cigar.....	4	60	5	.....	.....	1	54	Oc <sup>a</sup>	58	Au	48	58	15	43	72,200
10 Boxes and cartons, paper.....	9	784	.....	32	29	15	708	Fe	748	De	653	678	308	370	951,612
11 Boxes, wooden packing.....	11	584	1	20	31	7	525	Jy	570	Fe	488	498	494	4	715,054
12 Brass and bronze products.....	28	928	18	46	54	21	789	Je	866	Ja	675	792	782	10	1,433,187
13 Bread and other bakery products.....	224	2,279	225	55	326	61	1,612	Je	1,653	Ja	1,569	1,635	1,327	305	2,939,233
14 Brick and tile, terra-cotta, and fire- clay products.....	10	760	5	21	24	7	703	Oc	760	Fe	580	730	730	.....	1,484,331

<sup>a</sup> Owned power only.<sup>a</sup> Includes rented power, other than electric.

## MANUFACTURES—OHIO.

69

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$38,897	\$24,799	\$213,980	\$56,651	\$8,115	\$4,363	\$258,404	\$9,407	\$750,387	\$482,576	1,171	742	416		13	420	1
3,040	6,521	49,560	150	7,743	1,086	178,304	2,891	305,824	124,629	200		50		150	6	2
20,393	19,224	104,895	10	14,960	2,229	202,023	638	443,029	240,368	31				31		3
7,596	14,528	67,595		5,002	1,798	74,415	4,818	245,995	166,762	92	40	8		44		4
26,664	12,950	92,216	1,100	6,853	1,343	44,177	4,199	238,763	190,387	235	145	16		74	25	5
8,976	5,288	23,072		7,360	465	30,396	1,286	99,500	67,818	22				22		6
113,224	182,242	246,715		27,568	43,361	2,393,144	31,156	3,801,562	1,377,262	2,092	1,735	125		232	785	7
53,187	129,114	116,046		11,499	10,963	670,845	28,465	1,364,586	659,276	308	227			81	361	8
32,646	23,510	150,448	1,775	15,416	613	73,517	4,850	357,530	279,163	169				169		9
58,582	91,439	255,519		5,919	9,050	297,333	11,648	1,110,538	801,557	1,245	1,065			180		10
328,444	269,493	1,447,239	184,866	156,860	26,665	2,034,847	63,363	5,794,334	3,696,124	2,923	679	224		2,020	302	11
27,015	43,282	31,827	53,068	5,934	1,115	66,522	12	296,338	229,804							12
236,871	598,885	940,153	293,293	47,532	40,409	1,557,373	34,381	6,024,894	4,433,140	2,538	617	10		1,911	355	13
103,805	350,890	625,922	6,736	30,109	22,473	1,082,817	22,678	3,545,320	2,439,825	1,544	15			1,529		14
72,042	184,799	318,191	2,300	9,543	15,767	437,107	11,439	1,849,019	1,400,473	994	602	10		382	355	15
61,024	63,196	2,040	284,257	7,880	2,229	37,449	264	630,555	592,842							16
2,100	492	3,154		1,200	10	1,394	236	13,731	12,101	1				1		17
53,728	67,533	186,301		6,751	13,443	914,504	6,324	1,525,732	604,404	225	50			175		18
86,927	52,514	375,098	35,947	34,708	2,640	908,185	5,176	1,771,728	860,367	645	550			95	165	19
20,504	12,683	83,993	600	10,844	1,785	141,616	3,013	293,880	148,946	210	170			40	43	20
145,065	136,577	705,261	2,542	30,615	44,000	21,465,768	100,669	23,244,885	1,678,448	4,928	3,659	287		982	1,447	21
3,080	3,230	33,132		1,980	707	16,364	1,333	72,895	55,198	60		55		5	105	22
115,753	362,478	720,672		10,320	32,921	871,741	24,411	3,039,359	2,143,207	1,832	1,385	150		297	896	23
1,300	3,170	16,704	280	3,845	263	7,570	339	51,399	43,490	38				38		24
86,949	70,892	432,310	450	25,760	12,213	840,497	21,862	2,090,656	1,228,297	998	895	80		113	700	25
37,306	27,991	206,207	2,680	12,712	9,131	460,851	9,638	864,888	394,399	726	400	113		213	155	26
6,666	7,215	35,801		3,680	170	160,523	1,175	300,164	138,466	65				65	1	27
88,310	139,625	957,791	2,542	51,956	511,782	1,787,694	9,755	4,120,904	2,323,455	170	50			120	10	28
42,446	62,107	47,309		2,915	4,764	356,028	3,876	715,824	355,920	137	90	10		37		29
23,212	7,067	60,578		3,480	2,462	100,779	4,648	249,682	144,255	140		59		81	20	30
1,322,463	1,474,302	3,734,897	83,521	370,214	4,866,953	25,530,700	527,450	47,216,682	21,158,532	22,409	14,441	2,228	75	5,665	7,291	31

Iron and steel, doors and shutters....	1	Musical instruments, organs.....	2	Roofing materials.....	4	Surgical appliances.....	6
Iron and steel forgings, not made in steel works or rolling mills.....	2	Musical instruments, pianos.....	4	Safes and vaults.....	3	Tinware, not elsewhere specified.....	4
Japanning.....	1	Musical instruments, piano and organ.....	2	Sausage.....	4	Toys and games.....	3
Jewelry and instrument cases.....	1	gan.....	2	Saws.....	3	Trunks and valises.....	2
Labels and tags.....	1	Oil, cottonseed and cake.....	1	Shipbuilding, wooden, including boat building.....	2	Umbrellas and canes.....	3
Lamps and reflectors.....	6	Oil, not elsewhere specified.....	3	Show cases.....	2	Upholstering materials.....	1
Leads.....	1	Oleomargarine.....	1	Silversmithing and silverware.....	2	Vinagar and cider.....	1
Lead, bar, pipe, and sheet.....	1	Paper goods, not elsewhere specified.....	5	Smelting and refining, not from the ore.....	2	Washing machines and clothes wringers.....	2
Leather goods, not elsewhere specified.....	1	Paper patterns.....	2	Soap.....	12	Waste.....	1
Liquors, distilled.....	2	Pens, fountain and stylographic.....	2	Sporting and athletic goods.....	2	Watch and clock materials.....	1
Liquors, vinous.....	2	Pickles, preserves, and sauces.....	9	Springs, steel, car and carriage.....	1	Watch cases.....	1
Malt.....	2	Plated ware.....	1	Stamped and enameled ware, not elsewhere specified.....	3	Window shades and fixtures.....	4
Mirrors, framed and unframed.....	4	Printing materials.....	5	Stationary goods, not elsewhere specified.....	3	Window and door screens.....	3
Mucilage and paste.....	2	Pumps, not including power pumps.....	3	Stereotyping and electrotyping.....	5	Wood preserving.....	2
Musical instruments and materials, not specified.....	1	Regalia and society badges and emblems.....	6			Wood, turned and carved.....	5

\$10,243,884	\$15,274,202	\$67,350,779	\$1,748,342	\$1,817,659	\$4,862,000	\$187,590,280	\$10,902,284	\$352,418,052	\$153,925,488	277,066	180,032	33,230	385	63,419	71,499	1
11,723	9,935	68,136	696	2,059	1,235	98,753	3,270	240,522	138,499	177	50	43		84		2
109,402	148,843	1,101,237	577	33,913	45,118	1,840,978	84,202	4,372,687	2,447,687	3,944	665	157		3,122	600	3
449,235	973,855	4,269,922	14,462	20,700	152,684	12,664,138	142,356	22,743,728	9,937,234	6,923	4,600	150		2,173	2,094	4
9,520	1,520	42,508	150	4,856	543	13,789	1,690	96,762	81,283	73		49		24		5
29,644	39,673	118,914		2,730	3,606	454,306	3,432	720,505	282,767	94		35		59		6
6,690	13,763	9,183		1,200	535	35,849	710	86,379	50,320	8				8		7
18,288	7,480	109,880	2,433	13,807	912	80,431	2,235	295,357	212,691	106				106		8
	7,624	26,826		1,680	393	42,230	1,352	81,914	38,332	35		20		15		9
65,894	36,552	328,416	135	30,000	9,928	757,322	15,106	1,468,463	696,035	489	245	35		209	130	10
38,420	36,307	267,700	2,058	15,670	8,790	916,612	8,191	1,389,670	464,867	1,808	1,368	230		210	315	11
113,948	89,562	534,308	1,860	19,854	10,694	1,367,993	49,807	2,491,119	1,073,319	879	150	174		555	15	12
115,401	420,407	1,222,160		70,650	35,397	3,800,391	116,573	6,907,608	2,990,644	1,787	779	120		888	293	13
55,187	27,220	478,080	1,295	748	14,728	182,213	247,275	1,214,905	785,417	2,460	2,190	30		240	170	14

\* Same number reported for one or more other months.

\* Same number reported throughout the year.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.				Total.	16 and over.		Under 16.			
						Male.	Female.	Average number.	Number, 15th day of—		Male.		Female.	Male.	Female.			
									Maximum month.	Minimum month.								
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.																		
CLEVELAND—Continued.																		
1	Brooms, from broom corn.....	7	44	6	1	3	.....	34	Jy <sup>3</sup>	35	Ja <sup>3</sup>	31	35	32	3	.....	.....	\$31,955
2	Butter.....	6	73	3	5	24	9	32	Jy	36	Ja <sup>3</sup>	29	35	26	9	.....	.....	175,394
3	Buttons.....	5	53	3	4	1	.....	45	Fe	56	Jy	38	50	26	24	.....	.....	31,011
4	Carriage and wagon materials.....	3	21	2	2	.....	1	16	Jy	18	No	14	15	14	1	.....	.....	9,381
5	Carriages and wagons.....	27	339	29	22	10	5	273	Mh	299	De	232	245	245	.....	.....	.....	576,430
6	Carriages and wagons.....	24	310	25	21	9	5	250	Mh	275	De	211	222	222	.....	.....	.....	533,755
7	Repair work only.....	3	29	4	1	1	.....	23	Jy	27	De <sup>3</sup>	21	23	23	.....	.....	.....	42,675
8	Cars and general shop construction and repair by steam-railroad companies.....	9	3,148	.....	98	166	7	2,877	Se	2,972	Ja	2,764	2,846	2,845	1	.....	.....	4,384,329
9	Chemicals.....	6	812	.....	22	114	23	653	Ja	728	Oc	602	669	665	4	.....	.....	3,875,647
10	Cleansing and polishing preparations.....	14	84	11	12	17	10	34	My	44	No <sup>2</sup>	26	35	28	7	.....	.....	100,016
11	Cleansing preparations.....	11	71	10	9	16	9	27	My	36	Jy <sup>3</sup>	20	28	22	6	.....	.....	82,891
12	Polishing preparations.....	3	13	1	3	1	1	7	Ja <sup>3</sup>	8	Jy <sup>3</sup>	6	7	6	1	.....	.....	17,125
13	Clothing, men's.....	64	3,456	82	60	175	116	3,023	Ap	3,134	De	2,915	3,104	1,163	1,930	1	10	4,432,367
14	Regular factories.....	30	2,763	47	46	171	113	2,386	Mh	2,474	De	2,337	2,394	954	1,434	1	5	4,353,526
15	Men's and youths.....	25	2,341	37	44	155	101	2,004	Mh	2,084	De	1,926	1,978	909	1,063	1	5	3,999,337
16	Boys.....	5	422	10	2	16	12	382	De	411	Ja	351	416	45	371	.....	.....	354,189
17	Contract work.....	34	693	35	14	4	3	637	Ap	700	Ja	568	710	209	496	.....	5	78,841
18	Men's and youths.....	34	693	35	14	4	3	637	Ap	700	Ja	568	710	209	496	.....	5	78,841
19	Clothing, women's.....	106	7,988	105	142	585	201	6,955	Au	7,745	De	5,400	6,854	2,630	4,216	.....	8	6,627,931
20	Regular factories.....	72	7,793	71	142	585	201	6,794	Fe	7,537	De	5,353	6,605	2,571	4,026	.....	8	6,607,151
21	Suits, skirts, and cloaks.....	44	6,375	47	102	491	153	5,582	Au	6,255	De	4,236	5,355	2,385	2,970	.....	.....	5,793,449
22	Shirt waists and dresses, except house dresses.....	17	1,280	13	31	89	43	1,104	Fe	1,206	Je	925	1,149	178	966	.....	5	731,575
23	Wrappers and house dresses.....	5	107	4	8	5	5	85	Au	96	De	68	73	4	66	.....	3	70,907
24	All other.....	6	31	7	1	.....	.....	23	No	28	Ja <sup>3</sup>	18	28	4	24	.....	.....	11,220
25	Contract work.....	34	195	34	.....	.....	.....	161	Au	234	De	47	249	59	190	.....	.....	20,780
26	Suits, skirts, and cloaks.....	27	147	27	.....	.....	.....	120	Au	180	De	38	191	50	141	.....	.....	15,240
27	All other.....	7	48	7	.....	.....	.....	41	Se	56	De	9	58	9	49	.....	.....	5,540
28	Confectionery and ice cream.....	31	1,453	17	54	120	56	1,206	Oc	1,467	Jy	1,015	1,348	545	803	.....	.....	3,178,110
29	Confectionery and chewing gum.....	21	1,174	9	42	90	43	990	Oc	1,259	Jy	745	1,139	365	774	.....	.....	1,909,557
30	Ice cream.....	10	279	8	12	30	13	216	Je	289	Ja	172	209	180	29	.....	.....	1,268,553
31	Cooperage and wooden goods, not elsewhere specified.....	7	349	4	13	24	7	301	Oc	317	Ja	295	297	297	.....	.....	.....	529,345
32	Copper, tin, and sheet-iron products.....	71	1,881	61	64	172	42	1,542	Mh	1,592	No	1,386	1,406	1,177	229	.....	.....	5,115,549
33	Cordials and flavoring sirups.....	5	142	2	7	32	3	98	Je	264	No	66	78	48	30	.....	.....	331,464
34	Electrical machinery, apparatus, and supplies.....	40	4,016	18	154	313	205	3,326	Mh	3,856	Au	2,894	2,953	2,002	947	4	.....	11,330,192
35	Electroplating.....	14	104	19	3	.....	3	79	Ap	87	No	71	77	76	.....	1	.....	42,631
36	Engines, steam, gas, and water.....	5	228	.....	12	34	5	177	Ja	206	De	164	164	164	.....	.....	.....	1,466,489
37	Engraving and diesinking.....	7	23	6	2	.....	15	15	De <sup>3</sup>	18	Jy	12	19	17	2	.....	.....	11,564
38	Flavoring extracts.....	8	78	4	6	9	15	44	Ap	47	De <sup>3</sup>	42	41	18	23	.....	.....	179,431
39	Food preparations, not elsewhere specified.....	12	354	9	11	36	16	282	Se	317	De	219	220	119	101	.....	.....	722,899
40	Foundry and machine-shop products.....	189	17,486	74	504	1,345	336	15,227	Mh	16,598	No	13,824	15,227	15,102	114	11	.....	41,920,031
41	Boiler shops.....	4	50	5	4	2	.....	39	My	50	No	30	39	39	.....	.....	.....	50,651
42	Foundries.....	23	5,479	1	96	359	75	4,948	My	5,358	Oc	4,375	5,168	5,152	11	5	.....	8,264,308
43	Machine shops.....	162	11,957	68	404	984	261	10,240	Mh	11,250	De	9,335	10,020	9,911	103	6	.....	33,605,072
44	Fur goods.....	14	109	15	4	9	5	76	No	133	Ap	24	127	43	84	.....	.....	205,392
45	Furniture.....	23	631	17	25	47	17	525	Mh	572	Jy	491	490	461	26	3	.....	986,282
46	Wood, other than rattan and willow.....	12	329	12	13	22	9	273	De	300	Jy	226	281	254	26	1	.....	467,190
47	Metal.....	4	32	1	3	3	1	24	Jy	28	De <sup>3</sup>	19	18	18	.....	.....	.....	24,597
48	Store and office fixtures.....	7	270	4	9	22	7	228	Fe	257	De	190	191	189	.....	2	.....	494,495
49	Gas and electric fixtures and lamps and reflectors.....	19	413	11	21	35	23	323	Ja	342	Au	309	329	285	43	1	.....	552,337
50	Glass, cutting, staining, and ornamenting.....	8	72	9	6	1	1	55	Au <sup>3</sup>	60	Mh	49	56	55	1	.....	.....	51,825
51	Hand stamps.....	5	29	7	2	3	1	16	( <sup>1</sup> )	16	( <sup>1</sup> )	16	16	14	1	1	.....	26,498
52	Hardware.....	9	3,627	1	45	156	86	3,339	Ap	3,674	Jy	2,910	3,251	2,906	326	8	11	5,649,216
53	Hats and caps, other than felt, straw, and wool.....	8	152	12	3	10	4	123	My	159	Se	97	125	55	70	.....	.....	148,232
54	Hosiery and knit goods.....	16	1,497	8	42	77	29	1,341	Mh <sup>3</sup>	1,442	Se	1,208	1,317	260	1,036	2	19	3,113,423
55	Ice, manufactured.....	6	190	1	14	5	4	166	Je	222	De	108	193	183	10	.....	.....	2,736,274
56	Instruments, professional and scientific.....	13	2,289	4	18	18	14	2,235	Ap	237	Oc	211	222	160	61	1	.....	614,741
57	Iron and steel, blast furnaces.....	5	1,268	.....	45	134	23	1,066	Ap	1,298	De	703	1,203	1,202	1	.....	.....	16,360,152
58	Iron and steel, steel works and rolling mills.....	15	9,086	2	195	645	95	8,149	Fe	8,848	No	7,167	8,171	7,940	231	.....	.....	38,988,491
59	Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.....	7	1,800	.....	30	56	39	1,675	Ap	1,829	De	1,456	1,587	1,409	177	1	.....	4,929,030
60	Iron and steel forgings, not made in steel works or rolling mills.....	11	625	3	26	26	7	563	Ja	740	Oc	457	509	509	.....	.....	.....	2,162,527

<sup>1</sup> Owned power only.<sup>3</sup> Includes rented power other than electric.

## MANUFACTURES—OHIO.

71

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$1,100	\$2,400	\$22,953		\$223	\$465	\$62,900	\$910	\$101,658	\$37,848	21				21	
11,399	20,878	22,234		6,300	1,419	922,599	2,907	1,064,076	138,570	145	6	67		72	2
3,900	1,250	10,742		3,260	61	16,712	1,048	49,736	31,976	41	12			29	3
2,880	1,320	11,676		840	451	23,033	1,079	52,717	28,605	40		25		15	4
33,028	9,279	207,272	\$2,200	9,374	5,482	236,542	10,001	643,545	397,002	307		69		238	5
32,248	9,169	193,812	2,000	8,504	5,180	218,597	9,489	599,013	370,927	292		69		223	6
780	120	13,460	200	810	302	17,945	512	44,532	26,075	15				15	7
135,772	162,179	2,361,615		5,504	2,179,697	117,112		4,957,868	2,661,059	7,838	7,174	16	175	473	8
93,080	141,402	487,737		2,880	36,096	1,508,784	135,006	3,129,970	1,486,180	2,773	2,400	5		368	9
19,372	21,979	17,227	2,718	4,053	908	123,583	1,468	288,012	162,961	89		48		16	10
15,282	19,029	12,430	2,718	3,393	706	92,687	1,139	240,141	146,315	58	25	25		8	11
4,090	2,950	4,797		660	202	30,896	329	47,871	4,403,262	31		23		8	12
181,709	370,714	1,482,426	492,689	121,182	24,793	4,086,797	26,819	8,516,878	3,915,188	371				371	13
163,409	306,374	1,172,136	408,823	114,878	24,179	4,050,993	21,768	7,987,949	3,542,545	299				299	14
159,889	338,812	1,027,489	408,204	102,738	23,330	3,691,320	18,466	7,252,331	3,722,643	248				248	15
3,540	27,562	144,647	619	12,140	849	359,673	3,302	735,618	488,074	51				51	16
18,300	4,340	310,290	83,866	6,304	614	35,804	5,051	528,929	488,074	72				72	17
18,300	4,340	310,290	83,866	6,304	614	35,804	5,051	528,929	488,074	72				72	18
557,380	1,016,858	3,716,909	311,154	196,446	45,378	8,210,051	56,098	16,243,292	7,977,143	1,074	30	140		904	19
557,380	1,016,858	3,643,241	311,154	194,971	45,099	8,208,922	53,921	16,142,765	7,879,922	1,025	30	140		855	20
453,586	871,631	3,089,604	311,082	146,266	40,871	6,945,511	41,876	13,746,813	6,759,426	810	30	140		640	21
94,030	137,063	513,755	72	43,177	3,935	1,123,212	10,228	2,151,426	1,017,986	186				186	22
9,450	8,164	30,989		3,632	274	122,968	1,422	200,070	75,680	22				22	23
320		8,893		1,896	19	17,231	395	44,456	20,830	7				7	24
		73,698		1,475	279	1,129	2,177	100,527	97,221	49				49	25
		53,092		1,415	206	992	1,792	71,749	71,749	33				33	26
		20,576		60	73	137	385	25,994	25,472	16				16	27
129,476	181,859	517,086		46,255	26,641	2,787,299	49,388	4,964,892	2,128,225	2,410	930	821		659	28
95,536	100,596	387,618		37,486	22,365	2,279,641	31,775	3,890,495	1,579,079	1,307	680	15		612	29
33,940	81,263	129,568		8,769	4,276	507,658	17,693	1,074,397	549,146	1,103	250	806		47	30
18,084	23,838	135,404		943	9,833	616,953	6,496	855,328	231,879	1,035	945	2		88	31
166,326	184,813	918,604	30,075	25,194	26,882	1,813,986	40,053	3,864,955	2,010,916	1,422	800	174		448	32
10,680	45,693	41,903		10,987	5,503	409,976	2,700	687,844	275,168	68	10			58	33
361,615	517,190	1,948,238	2,123	20,495	55,876	5,740,529	151,042	11,357,538	5,465,967	4,831	466	1,580		2,785	34
3,500	1,156	62,724	65	6,381	171	25,468	5,805	129,630	98,357	241		113		128	35
22,819	45,366	142,842		552	9,458	255,817	11,708	587,693	320,168	715	40	475		200	36
2,040		1,071		1,587	25	3,119	207	30,160	26,834	10				10	37
9,560	16,293	16,946		1,716	2,813	154,183	1,764	325,953	170,006	97	45			52	38
29,040	48,209	111,124	928	896	5,395	547,889	15,249	1,021,473	458,335	521	120	212		189	39
1,557,219	1,889,901	10,586,721	112,898	128,562	394,738	13,012,451	837,177	34,959,563	21,109,935	27,522	12,005	3,186	100	12,281	40
9,930	1,778	27,274		1,068	743	20,709	1,950	77,722	55,063	125	125			125	41
301,788	459,501	3,383,247	3,408	3,507	93,674	2,544,189	346,490	8,457,476	5,566,797	7,075	1,570	585		4,920	42
1,245,501	1,423,622	7,176,200	109,490	123,987	300,321	10,447,553	488,737	26,424,365	15,488,075	20,322	10,310	2,601	100	7,311	43
14,000	6,706	63,088		21,682	1,148	105,888	789	290,425	183,748	14				14	44
57,568	73,658	405,538	10,385	28,957	8,187	702,409	14,327	1,594,709	877,973	788	80	305		403	45
33,388	35,812	214,807	10,358	25,177	2,684	426,656	5,107	908,620	471,857	145		30		115	46
4,500	2,205	14,415	27	2,580	250	39,148	89	63,294	24,057	5				5	47
19,680	35,641	176,316		1,200	5,253	236,605	9,131	627,795	382,059	638	80	275		283	48
43,728	46,090	222,215	810	18,131	2,811	518,410	10,582	978,952	444,960	347	100	80		167	49
10,060	1,420	38,987	125	3,738	270	44,555	1,358	124,503	78,590	26				26	50
2,292	1,916	13,282		2,880	164	12,918	132	53,766	40,716	8				8	51
143,469	275,585	2,060,541	4,271	4,600	70,790	2,373,766	267,491	5,766,060	3,124,803	4,776	2,126			2,650	52
7,600	11,185	63,171		4,986	326	166,531	1,156	302,796	135,109	17				17	53
190,643	152,975	671,539	2,817	62,346	15,919	2,310,504	23,922	4,051,152	1,716,726	528	85	5		433	54
29,062	6,145	137,581		1,822	36,635	38,279	117,493	570,167	414,395	3,567	3,442			125	55
38,378	41,627	140,167	32,450	6,746	2,777	135,520	4,469	488,577	348,588	242	128	67		47	56
143,092	192,361	918,461	1,985	158,850	6,816,341	3,846,908	13,098,385	2,435,136	40,090	22,990	17,100			11,448	57
588,679	920,094	6,049,623	5,028	600	196,910	22,768,050	1,784,260	33,388,829	8,836,519	70,844	68,625	350		1,869	58
129,203	111,088	969,418	812	3,476	48,510	1,922,937	85,757	3,541,937	1,533,243	4,393	1,575	41		2,777	59
70,087	39,664	415,595		2,274	21,257	635,667	129,446	1,754,030	988,917	2,438	482	776		1,180	60

<sup>1</sup> Same number reported for one or more other months.<sup>2</sup> Same number reported throughout the year.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

CLEVELAND—Continued.																
1	Jewelry.....	21	139	19	7	4	4	105	Ja <sup>a</sup> 111	Oc 100	108	107	.....	1	.....	\$136,438
2	Leather goods.....	30	195	26	12	4	8	145	Ap 156	No 132	140	128	11	1	.....	224,582
3	Liquors, distilled.....	6	11	4	.....	1	1	5	( <sup>a</sup> ) 5	( <sup>a</sup> ) 5	6	6	.....	.....	.....	35,176
4	Liquors, malt.....	12	1,240	5	46	114	19	1,056	Jy 1,149	Mh 956	1,030	1,028	2	.....	.....	10,541,169
5	Lithographing.....	8	611	3	26	32	21	529	Je 551	Ap 508	509	471	38	.....	.....	838,030
6	Lumber, planing-mill products, not including planing mills connected with sawmills.....	36	1,052	14	50	40	17	931	Se 1,026	Ja 860	877	877	.....	.....	.....	1,174,962
7	Marble and stone work.....	19	252	16	9	15	7	205	Ap 236	De 162	186	186	.....	.....	.....	514,831
8	Mattresses and spring beds.....	7	203	1	9	11	11	171	My 186	De 158	157	122	35	.....	.....	255,343
9	Millinery and lace goods.....	12	596	22	12	35	31	496	Mh 658	Je 339	407	185	280	.....	2	620,152
10	Mineral and soda waters.....	25	161	24	19	25	4	89	Se 108	Ja <sup>a</sup> 76	103	99	4	.....	.....	127,566
11	Models and patterns, not including paper patterns.....	24	216	24	15	4	7	166	Ap 195	Ja 154	158	155	2	1	.....	186,189
12	Oil, not elsewhere specified.....	12	206	.....	24	72	30	80	My 87	Oc <sup>a</sup> 75	74	74	.....	.....	.....	725,061
13	Optical goods.....	7	87	4	9	12	12	50	Se 51	Mh 49	50	50	.....	.....	.....	83,264
14	Paints.....	21	1,532	1	61	558	125	787	Ap 853	No 720	774	709	65	.....	.....	5,356,036
15	Patent medicines and compounds and druggists' preparations.....	52	539	44	44	123	100	228	Mh 257	My 204	219	136	83	.....	.....	892,736
16	Photo-engraving.....	5	108	1	14	16	10	67	Se <sup>a</sup> 74	Ja <sup>a</sup> 63	73	73	.....	.....	.....	91,579
17	Plumbers' supplies, not elsewhere specified.....	20	1,131	6	53	110	39	923	Ja 1,020	Je 838	963	706	9	233	15	2,151,702
18	Printing and publishing, book and job.....	160	2,783	113	166	256	113	2,135	Mh 2,218	No 2,039	2,048	1,639	393	16	.....	3,706,458
19	Printing and publishing, newspapers and periodicals.....	81	2,017	45	109	534	203	1,126	Ap 1,171	Au 1,079	1,138	1,057	68	13	.....	3,371,200
20	Sausage.....	8	158	7	9	21	5	116	Oc 120	Ja 113	116	116	.....	.....	.....	292,142
21	Slaughter and meat packing.....	31	1,522	31	35	144	28	1,234	De 1,733	Oc 1,135	1,356	1,308	46	2	.....	6,187,293
22	Stereotyping and electroplating.....	4	125	2	7	6	6	104	Ap 107	De 96	104	103	1	.....	.....	105,110
23	Stoves and hot-air furnaces.....	16	660	8	31	37	29	555	Oc 612	Jy 511	586	581	5	.....	.....	1,222,308
24	Stoves and ranges.....	7	535	1	19	29	15	471	Ja 508	Jy 436	458	458	.....	.....	.....	1,066,620
25	Hot-air furnaces.....	9	125	7	12	8	14	84	No 119	Ap <sup>a</sup> 62	128	123	5	.....	.....	155,748
26	Stoves, gas and oil.....	11	2,067	.....	55	216	40	2,356	Je 2,757	Au 2,096	2,112	2,095	1	16	.....	3,790,019
27	Structural ironwork, not made in steel works or rolling mills.....	21	2,347	9	62	230	59	1,987	Se 2,111	Ja 1,899	2,030	1,958	62	10	.....	6,169,718
28	Tobacco manufactures.....	233	1,887	247	29	49	13	1,549	Oc 1,613	Mh 1,491	1,519	587	931	1	.....	932,509
29	Varnishes.....	12	499	7	48	116	53	275	My 318	No 240	239	210	28	1	.....	2,616,096
30	Wall plaster.....	3	75	.....	6	9	2	58	Au 69	Ja <sup>a</sup> 46	57	54	3	.....	.....	872,843
31	Wirework.....	13	629	2	32	65	29	501	Ap 505	De 450	447	385	62	.....	.....	1,021,754
32	All other industries*.....	264	21,053	145	587	2,416	550	17,360	.....	.....	19,081	14,851	4,142	64	24	65,013,813

\* All other industries embrace—  
 Agricultural implements..... 1  
 Artificial limbs..... 1  
 Artificial stone products..... 5  
 Babbitt metal and solder..... 1  
 Bags, other than paper..... 5  
 Bags, paper..... 1  
 Baking powders..... 1  
 Baskets and rattan and willow ware..... 3  
 Belting, leather..... 2  
 Belting and hose, woven..... 2  
 Bluing..... 1  
 Boots and shoes..... 2  
 Brushes..... 6  
 Canning and preserving, fish..... 1  
 Carpets, rag..... 1  
 Carriages and sleds, children's..... 1  
 Cars and general shop construction and repairs by electric-railroad companies..... 1  
 Cars, electric-railroad, not including operations of railroad companies..... 1  
 Cash registers and calculating machines..... 3  
 Cheese..... 1  
 Clocks..... 1  
 Cloth, sponging and refinishing..... 3  
 Clothing, men's, buttonholes..... 3  
 Coffee, roasting and grinding..... 3  
 Coffins, burial cases, and undertakers' goods..... 2  
 Coke, not including gas-house coke..... 1  
 Collars and cuffs, men's..... 2  
 Corsets..... 1  
 Cutlery and edge tools..... 2  
 Dairymen's, poultrymen's, and apirists' supplies..... 1  
 Dyeing and finishing textiles..... 1  
 Emery and other abrasive wheels..... 1  
 Enameling..... 2

Engraving, steel and copper plate, including plate printing..... 3  
 Engraving, wood..... 1  
 Envelopes..... 2  
 Fancy articles, not elsewhere specified..... 2  
 Fertilizers..... 1  
 Files..... 3  
 Firearms..... 1  
 Flour-mill and gristmill products..... 5  
 Foundry supplies..... 5  
 Furnishing goods, men's..... 1  
 Galvanizing..... 3  
 Gas, illuminating and heating..... 2  
 Gas machines and gas and water meters..... 2  
 Glue, not elsewhere specified..... 2  
 Grease and tallow, not including lubricating greases..... 1  
 Hair work..... 3

Hats, fur-felt..... 1  
 House furnishing goods, not elsewhere specified..... 5  
 Ink, writing..... 1  
 Iron and steel, nails and spikes, cut and wrought, including wire nails, not made in steel works and rolling mills..... 3  
 Iron and steel, cast-iron pipe..... 1  
 Japanning..... 1  
 Labels and tags..... 1  
 Lead, bar, pipe, and sheet..... 1  
 Leather, tanned, curried, and finished..... 3  
 Liquors, vinous..... 5  
 Looking glass and picture frames..... 2  
 Lubricating greases..... 4  
 Lumber and timber products..... 1  
 Mirrors, framed and unframed..... 1  
 Motorcycles, bicycles, and parts..... 2

1	COLUMBUS—All industries.....	643	21,323	458	803	2,126	700	17,236	Mh 18,056	No 16,580	17,558	14,586	2,977	22	23	\$52,097,767
2	Artificial stone products.....	9	23	.....	4	.....	.....	19	Jy 28	Ja 6	26	26	.....	.....	.....	65,415
3	Awnings, tents, and sails.....	3	38	1	4	6	.....	27	Je 43	Ja 14	26	18	8	.....	.....	64,930
4	Boots and shoes.....	7	1,896	3	25	101	42	1,725	Je 1,804	Ja 1,478	1,833	905	916	10	2	4,580,636
5	Boxes, wooden packing.....	5	53	3	1	1	2	46	Jy 53	Ja 36	47	47	.....	.....	.....	70,878
6	Bread and other bakery products.....	75	736	81	18	56	36	545	Mh 567	De 523	537	434	103	.....	.....	1,097,244
7	Brooms, from broom corn.....	9	23	9	.....	2	1	11	Se 13	Fe <sup>a</sup> 10	12	9	3	.....	.....	6,855
8	Carpets, rag.....	3	32	4	2	.....	1	25	My 30	Ja 17	23	15	8	.....	.....	10,429
9	Carriages and wagons.....	9	247	15	8	13	3	208	Ap 244	Oc 174	199	191	8	.....	.....	374,610
10	Cars and general shop construction and repairs by steam-railroad companies.....	4	2,874	.....	5	115	1	2,753	Mh <sup>a</sup> 2,892	Je 2,534	2,809	2,803	6	.....	.....	1,876,955
11	Coffee and spice, roasting and grinding.....	4	44	1	5	13	4	21	De 24	Ja 19	24	14	10	.....	.....	133,800

1 Owned power only.

2 Includes rented power, other than electric.



## MANUFACTURES—OHIO.

73

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manu- facture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Elec- tric horse- power gen- erated in estab- lish- ments re- port- ing.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, includ- ing in- ternal revenue and cor- poration income.	Principal materials.	Fuel and rent of power.			Total.	Steam en- gines. <sup>1</sup>	In- ter- nal com- bus- tion en- gines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Elec- tric (rent- ed).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$6,804	\$5,366	\$79,473	\$550	\$8,882	\$658	\$71,698	\$2,188	\$231,816	\$157,930	71	50	4		71	1
20,975	8,954	96,647	35	14,794	1,857	183,728	2,757	382,037	195,552	94	50	17		40	2
1,482	3,749	80,479	75,000	1,488	8,271	9,074	628	27,474	17,772	39	9			13	3
217,688	203,375	804,651	2,800	3,301	2,023,172	1,713,302	145,037	6,528,188	4,669,829	6,554	6,457	213		97	4
81,966	80,479	587,204		18,209	6,087	342,858	10,747	1,430,835	1,077,230	513				300	5
93,770	50,100	722,984	40,554	39,573	10,551	1,979,941	32,194	3,336,086	1,323,951	3,192	1,494	603		1,095	6
14,613	17,715	159,080	450	3,684	4,994	196,315	10,460	474,807	268,032	684		328		356	7
17,740	16,660	102,274	790	12,940	1,978	242,363	5,899	484,882	236,620	398				398	8
38,073	50,732	277,630		19,101	2,399	615,980	13,959	1,150,150	520,211	350	85	27	50	13	9
23,636	15,311	50,482		8,312	1,230	139,573	3,995	299,259	155,691	112		29		83	10
25,919	5,688	135,408	200	10,409	1,281	56,481	2,653	279,256	220,122	252		137		115	11
45,411	73,995	65,144	50	6,454	5,729	1,055,969	7,762	1,573,816	510,085	260	174	12		74	12
17,882	16,886	31,512	351	7,808	656	96,063	1,117	244,832	147,652	24				24	13
211,715	752,375	491,902	2,573	14,276	45,758	4,171,944	52,673	7,535,698	3,311,081	2,901	835	355		1,711	14
85,458	176,509	118,554	1,373	34,399	13,264	628,499	11,177	2,139,881	1,500,205	677	300	6		371	15
20,840	22,168	79,433	10,997	3,733	534	21,226	2,189	195,929	172,514	31				31	16
123,904	322,702	530,323		12,101	12,448	829,588	32,408	2,220,453	1,358,457	1,135	485	335		365	17
441,660	331,110	1,544,771	158,774	131,244	33,805	1,915,562	61,965	5,852,348	3,874,821	2,126	150	71		1,905	18
290,130	752,734	1,180,491	332,932	88,404	47,889	1,687,942	42,700	6,298,280	4,567,638	2,405	1,120	42		1,243	19
25,728	21,509	92,716		120	2,927	1,244,003	9,334	1,526,895	273,558	599	385	25		179	20
100,946	152,379	863,136	450	7,140	38,664	20,949,065	100,358	23,210,323	2,160,900	2,630	1,450	215		965	21
19,055	12,457	88,766	3,918	6,985	884	43,892	5,466	244,479	195,121	303				303	22
65,126	56,352	384,692	350	11,040	13,059	627,409	20,803	1,413,883	765,671	858	468	65		325	23
47,330	44,912	332,873		5,000	12,108	382,789	19,679	1,013,584	611,116	823	468	40		315	24
17,796	11,440	51,819	350	6,040	951	244,620	1,124	400,299	154,555	35		25		10	25
146,751	334,019	1,485,905		136,680	42,539	3,563,625	49,106	7,206,718	3,593,987	2,123	900	36		1,187	26
205,624	388,229	1,489,279	16,810	10,086	54,841	2,694,155	67,451	6,035,669	3,274,063	3,696	2,135	651		910	27
70,597	88,460	775,369		41,418	287,971	1,084,211	8,396	2,666,378	1,573,771	42				42	28
145,969	156,274	153,036		7,680	23,770	1,526,270	15,160	2,557,281	1,015,851	643	480			163	29
12,134	13,318	40,067	6,846	7,650	2,347	243,255	11,846	984,615	129,514	265	50	135		80	30
75,780	64,764	307,417		10,198	12,948	1,566,753	18,174	2,485,961	901,034	979	60	303		616	31
1,687,752	2,743,268	11,032,694	55,340	171,319	652,520	34,544,388	1,715,376	62,057,475	25,797,711	44,683	28,287	2,931	60	13,405	32

Musical instruments and materials, not specified.	4	Printing materials.	1	Shirts.	4	Tin plate andterneplate.	1
Musical instruments, organs.	1	Pumps, not including power pumps.	1	Showcases.	2	Tools, not elsewhere specified.	10
Needles, pins, and hooks and eyes.	1	Pumps, power other than steam.	1	Signs and advertising novelties.	5	Toys and games.	3
Oil, linseed.	1	Regalia and society badges and emblems.	1	Smelting and refining, not from the ore.	2	Typewriter supplies.	3
Paper and wood pulp.	2	Roofing materials.	2	Soap.	4	Umbrellas and canes.	3
Paper goods, not elsewhere specified.	2	Rubber goods, not elsewhere specified.	4	Soda-water apparatus.	1	Vinegar and cider.	1
Paving materials.	1	Rules, ivory and wood.	1	Springs, steel, car and carriage.	3	Wall paper.	2
Peanuts, grading, roasting, cleaning, and shelling.	1	Safes and vaults.	1	Stationery goods, not elsewhere specified.	1	Washing machines.	1
Pens, fountain and stylographic.	1	Salt.	2	Statuary and art goods.	3	Watch and clock materials.	1
Petroleum, refining.	2	Saws.	1	Steam fittings and steam and hot-water heating apparatus.	9	Watches.	2
Photographs and graphophones.	1	Screws, machine.	2	Stencils and brands.	4	Window and door screens.	1
Photographic apparatus.	1	Sewing-machine cases.	1	Surgical appliances.	2	Window shades and fixtures.	1
Pickles, preserves, and sauces.	4	Sewing machines and attachments.	2	Suspenders, garters, and elastic woven goods.	1	Wire.	6
Pottery.	2	Shipbuilding, iron and steel.	1		2	Wood, turned and carved.	3
Printing and publishing, music.	3	Shipbuilding, wooden, including boat building.	2		1	Wood shoddy.	6
						Woolen goods.	3
						Worsted goods.	1

\$1,748,034	\$2,515,588	\$11,177,197	\$257,768	\$372,291	\$796,047	\$29,789,008	\$847,490	\$57,608,084	\$26,971,586	35,522	18,781	6,835	32	9,874	9,532	1
4,088	3,620	13,669		582	316	25,761	967	65,583	38,855	121	50	63		8	15	2
106,760	183,518	876,087		1,320	620	54,099	593	111,284	56,592	16				16		3
2,347	2,698	26,505		29,990	24,482	3,503,866	33,322	5,224,348	1,687,160	889	75	182		632		4
37,350	58,974	351,383	195	1,272	557	51,808	2,455	107,729	53,466	252		16		236		5
				17,534	10,681	1,112,217	40,414	2,118,926	966,295	1,106	460	79		567	99	6
	1,374	5,258			104	14,794	198	33,487	18,495	22		20		2		7
1,679	336	8,569			77	7,684	312	29,618	21,442	31		25		6		8
23,600	24,415	137,314		3,600	3,313	342,443	3,138	648,097	302,516	162		160		2		9
9,240	31,200	2,194,591			6,808	3,060,279	106,182	5,401,494	2,235,033	3,281	2,268	615		398	2,100	10
10,610	14,953	14,487		3,840	2,038	222,579	1,838	301,734	77,317	57		15		42		11

\* Same number reported for one or more other months.

\* Same number reported throughout the year.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.				Total.	16 and over.		Under 16.				
						Male.	Female.	Average number.	Number, 15th day of—		Male.		Female.	Male.	Female.				
									Maximum month.	Minimum month.									
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.																			
COLUMBUS—Continued.																			
1	Confectionery and ice cream.....	13	282	11	16	27	14	214	De	260	Ja	157	279	176	100		3	\$398,325	
2	Confectionery.....	6	113	5	7	16	3	82	De	138	Ja	46	138	40	95		3	120,300	
3	Ice cream.....	7	169	6	9	11	11	132	Je	172	Fe	103	141	136	5			278,025	
4	Electroplating.....	4	42	4	2		2	34	Se	37	Ja <sup>s</sup>	31	36	34	2			18,417	
5	Food preparations, not elsewhere specified.....	6	31	6	1	3	2	19	Se <sup>s</sup>	22	Je	13	19	5	14			18,558	
6	Foundry and machine-shop products.....	45	2,795	33	80	497	102	2,083	Ja	2,196	De	1,929	2,119	2,095	24			8,881,907	
7	Furniture and refrigerators.....	8	372	6	20	15	3	328	Ja	409	Je	248	302	287	15			620,877	
8	Gas fixtures.....	4	147	3	4	5	1	134	Oc	309	Jy	75	240	91	149			162,725	
9	Glass, cutting, staining, and ornamenting.....	4	114		13	2	6	93	No	110	Je	77	97	92	5			122,635	
10	Hats and caps, other than felt, straw, and wool.....	3	39	5	4	1		29	Je	33	Ja <sup>s</sup>	26	26	19	7			14,803	
11	Ice, manufactured.....	6	225	1	21	40	4	159	Au	219	Ja	100	138	138				1,072,357	
12	Iron and steel forgings, not made in steel works or rolling mills.....	5	453		19	18	17	399	My	437	Jy	334	382	376	2		4	933,846	
13	Liquors, malt.....	5	703		37	63	7	596	Jy	688	Mh	553	583	583				11,836,788	
14	Lumber and timber products.....	3	59		6	3		50	Mh	60	Se	38	53	53				94,031	
15	Lumber, planing-mill products, not including planing mills connected with sawmills.....	13	313	10	20	19	2	262	Au <sup>s</sup>	281	Ja	233	264	264				461,990	
16	Marble and stone work.....	7	55	7	3	3		42	Se <sup>s</sup>	63	Ja	13	46	46				80,272	
17	Millinery and lace goods.....	5	116	4	5	5	5	97	Fe	164	Je	31	68	6	62			58,484	
18	Models and patterns, not including paper patterns.....	8	48	10	2		2	34	Jy <sup>s</sup>	36	No	31	36	31	5			46,284	
19	Patent medicines and compounds.....	15	89	14	8	9	22	36	No	41	Jy	30	37	23	12		2	167,457	
20	Printing and publishing, book and job.....	58	653	43	51	37	43	479	Mh	512	Au	437	483	332	149	2		773,177	
21	Printing and publishing, newspaper and periodicals.....	42	739	26	49	177	90	397	De <sup>s</sup>	423	Jy	370	413	387	23	3		1,465,578	
22	Printing and publishing.....	7	501	1	25	150	37	288	De	314	Jy	262	314	305	6	3		1,044,670	
23	Printing, publishing, and job printing.....	6	140	3	9	10	13	105	My	113	Fe	98	91	75	16			209,465	
24	Printing without publishing.....	29	98	22	15	17	40	4	De <sup>s</sup>	8	Ja <sup>s</sup>	2	8	7	1			211,443	
25	Saddlery and harness.....	9	175	11	9	33	6	116	Fe	124	Oc	103	123	105	18			326,176	
26	Shirts.....	4	48	5	2	8		33	Mh <sup>s</sup>	39	Jy	22	33	1	19	1	12	25,662	
27	Slaughtering and meat packing.....	7	249	5	8	18	14	204	Jy	215	My	198	204	204				546,683	
28	Stereotyping and electroplating.....	3	48	2	2	6	2	36	Se	39	Fe <sup>s</sup>	34	37	37				59,021	
29	Stoves and hot-air furnaces.....	7	273	1	15	14	9	234	Au	274	Je	192	231	229	2			537,928	
30	Structural ironwork, not made in steel works or rolling mills.....	5	160	1	12	9	5	133	Jy	161	Fe	111	116	116				839,972	
31	Tobacco, cigars.....	31	304	29	9	2		264	Fe	325	Se	211	224	43	181			84,460	
32	All other industries*.....	195	6,825	104	313	805	252	5,351					5,433	4,301	1,126	6		14,167,572	

\*All other industries embrace—

1 Agricultural implements.....	2	Carriage and wagon materials.....	2	Electrical machinery, apparatus, and supplies.....	2	Gloves and mittens, leather.....	2
2 Artificial limbs.....	3	Cars and general shop construction and repairs by electric-railroad companies.....	2	Engraving and diesinking.....	1	Grease and tallow, not including lubricating greases.....	1
3 Automobile bodies and parts.....	7			Envelopes.....	1	Hand stamps.....	2
4 Automobiles.....	2			Fancy articles, not elsewhere specified.....	1	Hardware.....	2
5 Automobile repairing.....	1			Fertilizers.....	1	Hats, fur-felt.....	1
6 Baking powders and yeast.....	1			Files.....	1	Hosiery and knit goods.....	1
7 Baskets and rattan and willow ware.....	1			Flavoring extracts.....	1	Instruments, professional and scientific.....	1
8 Belting, leather.....	1			Flour-mill and gristmill products.....	5	Iron and steel, steel works and rolling mills.....	1
9 Billiard tables and materials.....	2			Foundry supplies.....	1		
10 Bookbinding and blank-book making.....	5			Fur goods.....	2	Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.....	2
11 Boxes and cartons, paper.....	2			Furnishing goods, men's.....	1	Iron and steel, doors and shutters.....	1
12 Brass and bronze products.....	4			Gas, illuminating and heating.....	1		
13 Brick.....	2			Glass.....	2		
14 Butter.....	2						

1 <b>DAYTON—All industries.....</b>	523	28,261	426	1,113	2,064	597	24,061	My	25,663	De	21,171	23,818	20,018	3,773	19	8	\$71,541,173
2 Artificial stone products.....	5	31	7	1			23	Ap	34	Oc	14	23	23				24,350
3 Awnings, tents, and sails.....	4	28	4	1	1	1	21	My	31	Oc	17	17	10	7			19,620
4 Boxes, cigar.....	3	86	1	3	2		80	Au	85	Mh	75	90	26	52	2		40,781
5 Boxes and cartons, paper.....	5	579		24	29	8	518	Je	572	No	441	452	148	303	1		942,751
6 Brass and bronze products.....	8	122	7	13	5	2	95	Au	104	No	80	84	84				141,955
7 Bread and other bakery products.....	64	676	73	12	74	26	491	Oc	502	Ap	480	496	365	130		1	955,175
8 Brooms, from broom corn.....	5	23	5	1			17	My	19	Oc	15	19	16	3			16,373
9 Carriage and wagon materials.....	4	193	2	11	3	3	174	Ja	200	Se	147	176	176				337,721
10 Carriages and wagons.....	12	89	15	4	1	2	67	Je	79	No	51	53	52	1			112,881
11 Cars and general shop construction and repairs by electric-railroad companies.....	4	72		2	1		69	Jy	74	Oc	62	65	65				50,966

1 Owned power only.

2 Includes rented power, other than electric.

## MANUFACTURES—OHIO.

75

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horse-power generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$24,445	\$32,116	\$137,134	\$1,000	\$7,998	\$2,172	\$559,082	\$11,016	\$889,607	\$319,509	754	45	445	264	106	1
13,090	18,685	34,374	.....	4,783	840	170,659	2,315	261,800	88,826	156	.....	50	106	4	2
11,355	13,431	102,760	1,000	3,215	1,332	388,423	8,701	627,807	230,683	598	45	395	158	102	3
3,056	564	19,313	.....	1,430	137	6,056	1,285	48,387	41,046	111	.....	111	.....	.....	4
1,500	2,700	6,428	.....	1,440	216	26,411	586	48,672	21,675	23	.....	10	13	1	5
241,568	613,565	1,445,483	4,156	18,612	64,534	2,400,386	117,023	5,719,907	3,202,498	3,476	1,385	843	1,248	3,178	6
35,975	16,348	206,614	2,400	12,455	5,618	391,708	9,625	683,494	282,161	686	400	196	90	94	7
7,820	6,360	51,619	.....	4,421	2,725	113,685	1,612	204,400	89,103	88	.....	50	38	.....	8
15,187	5,713	57,861	.....	3,960	1,445	95,061	2,371	232,789	135,357	79	.....	39	40	.....	9
4,272	728	18,949	.....	1,968	74	27,707	540	61,185	32,938	3	.....	.....	3	.....	10
18,430	21,149	104,837	1,462	5,600	12,977	19,550	51,771	309,060	237,739	2,425	2,425	.....	.....	172	11
33,641	22,926	288,201	.....	.....	11,931	417,754	61,554	850,971	371,663	1,415	380	485	550	249	12
100,163	69,218	503,827	.....	.....	509,388	764,019	93,595	3,297,419	2,439,805	3,529	3,095	.....	32	402	13
7,946	3,871	37,098	.....	1,849	930	89,008	960	147,200	57,232	360	360	.....	.....	.....	14
27,968	17,971	182,682	8,000	12,243	5,211	460,180	8,852	833,314	364,282	1,298	810	280	208	270	15
2,900	1,968	41,600	.....	300	257	54,371	845	135,397	80,181	75	55	15	5	40	16
4,984	11,635	41,077	.....	3,423	294	133,079	739	255,713	121,895	23	.....	.....	23	.....	17
750	1,280	29,409	.....	2,430	274	8,154	895	59,166	50,117	89	.....	45	44	5	18
18,246	23,778	17,425	.....	9,486	1,825	162,704	1,194	562,379	398,481	32	.....	.....	32	.....	19
74,909	45,282	277,275	18,382	20,442	7,308	331,910	12,139	1,036,632	692,583	518	.....	100	418	.....	20
108,591	252,969	325,416	156,713	25,241	9,611	453,992	13,870	2,121,812	1,653,950	649	.....	18	631	4	21
74,235	211,654	264,390	.....	14,160	5,733	382,146	10,235	1,590,121	1,197,740	469	.....	18	451	4	22
10,906	15,941	60,136	.....	8,516	2,108	71,221	3,260	237,575	163,094	180	.....	.....	180	.....	23
23,450	25,374	890	156,713	2,565	1,770	625	375	294,116	293,116	.....	.....	.....	.....	.....	24
10,256	19,248	73,890	.....	5,544	1,321	239,736	2,853	392,747	150,158	122	.....	63	59	5	25
1,768	8,248	13,235	1,092	2,194	155	23,508	384	69,172	45,280	5	.....	.....	5	.....	26
12,236	23,181	110,057	.....	1,275	5,764	2,969,859	14,027	3,210,921	227,035	606	528	.....	78	150	27
5,651	5,997	31,149	293	2,100	299	41,326	2,287	105,975	62,362	102	.....	15	87	.....	28
27,150	37,108	190,132	.....	4,804	4,728	365,282	5,981	851,973	480,730	261	.....	35	226	.....	29
32,065	17,470	86,291	1,500	350	5,569	181,907	3,886	350,887	165,094	468	25	70	373	.....	30
10,154	1,279	83,086	55	4,050	42,708	91,372	977	250,317	157,968	1	.....	.....	1	.....	31
714,309	931,828	3,142,627	62,520	153,030	49,570	10,965,511	237,204	20,836,288	9,633,573	12,387	6,420	2,840	3,127	1,778	32

Iron and steel, cast-iron pipe.....	1	Optical goods.....	3	Roofing materials.....	1	Toys and games.....	2
Jewelry.....	6	Paints.....	6	Saws.....	2	Trunks and valises.....	3
Lamps and reflectors.....	1	Paper goods, not elsewhere specified..	1	Show cases.....	4	Varnishes.....	1
Leather goods, not elsewhere specified	1	Perfumery and cosmetics.....	4	Signs and advertising novelties.....	3	Wall plaster.....	3
Lithographing.....	2	Photographic apparatus.....	1	Smelting and refining, not from the	1	Washing machines and clothes	.....
Looking-glass and picture frames.....	2	Photographic materials.....	3	ore.....	1	wringers.....	2
Lubricating greases.....	2	Photo-engraving.....	2	Soap.....	3	Window and door screens and weather	.....
Mattresses and spring beds.....	4	Plumbers' supplies, not elsewhere	2	Stationery goods, not elsewhere	2	strips.....	4
Mineral and soda waters.....	5	specified.....	2	specified.....	2	Window shades and fixtures.....	2
Mirrors, framed and unframed.....	1	Printing materials.....	1	Steam fittings and steam and hot-	1	wirework, including woven wire	.....
Mucilage and paste.....	3	Pumps, not including power pumps..	1	water heating apparatus.....	2	fencing.....	2
Musical instruments, pianos.....	1	Pumps, power, other than steam.....	1	Surgical appliances.....	2	Wood, turned and carved.....	1
Oilcloth, enameled.....	1	Regalia and society badges and em-	2	Tinware, not elsewhere specified.....	1	Wooden goods, not elsewhere specified	2
Oleomargarine.....	1	blems.....	2	Tools, not elsewhere specified.....	1	Wool pulling.....	1

\$2,610,573	\$2,795,969	\$14,075,625	\$145,041	\$296,379	\$876,037	\$32,007,802	\$945,919	\$71,071,374	\$38,117,653	51,809	22,645	2,693	276	26,195	6,982	1
1,200	.....	15,235	.....	231	69	11,766	951	44,600	31,883	136	75	56	.....	5	20	2
1,885	1,480	10,733	.....	1,126	242	13,644	340	35,522	21,538	9	.....	.....	.....	9	.....	3
2,333	1,885	27,639	.....	5,170	236	56,015	1,043	90,341	33,283	98	.....	40	.....	58	.....	4
47,300	42,158	196,090	56	7,890	5,867	453,604	6,857	863,497	403,036	408	100	50	.....	253	.....	5
17,170	3,547	68,860	75	3,670	409	200,939	6,164	332,470	125,467	115	50	10	.....	55	.....	6
28,229	79,494	290,241	.....	11,604	6,284	1,174,939	37,590	2,012,777	800,248	651	20	52	1	578	2	7
885	.....	8,595	.....	170	115	15,682	289	41,575	25,604	20	.....	12	.....	8	.....	8
23,000	6,892	89,672	.....	720	4,779	218,022	9,563	314,496	86,911	490	300	25	.....	165	.....	9
5,175	1,937	51,563	.....	9,652	916	58,954	3,033	144,524	82,507	206	.....	76	.....	130	.....	10
3,150	480	47,031	.....	.....	879	27,777	675	79,991	51,539	97	.....	.....	.....	97	45	11

\* Same number reported for one or more other months.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Num- ber of estab- lish- ments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAR- EST REPRESENTATIVE DAY.				Capital.	
		Total.	Pro- pri- etors and firm mem- bers.	Sala- ried offi- cers, su- perin- tend- ents, and man- agers.	Clerks, etc.		Average num- ber.	Wage earners.		Total.	16 and over.		Under 16.		
					Male.	Fe- male.		Number, 15th day of—			Male.	Fe- male.	Male.		Fe- male.
								Maximum. month.	Minimum. month.						

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

DAYTON—Continued.																
1	Confectionery and ice cream.....	16	278	17	17	41	6	197	Se <sup>a</sup> 226	Ja 167	209	84	125	.....	\$286,264	
2	Confectionery.....	11	249	12	15	41	6	175	Oc 209	Jy 151	188	63	125	.....	168,577	
3	Ice cream.....	5	29	5	2	.....	.....	22	Jy 37	Ja <sup>a</sup> 13	21	21	.....	.....	117,687	
4	Copper, tin, and sheet-iron work.....	11	99	19	4	3	1	72	Ja 80	De 63	68	68	.....	.....	106,311	
5	Engines, steam, gas, and water.....	4	52	3	5	1	2	41	Ja 52	No <sup>a</sup> 31	31	31	.....	.....	113,021	
6	Foundry and machine-shop products.....	53	3,481	28	128	214	70	3,041	Mh 3,361	De 2,509	2,515	2,446	64	2	3	7,902,744
7	Furniture.....	10	455	5	23	20	7	400	Ja 457	Oc 329	387	380	7	.....	827,221	
8	Lumber and timber products.....	12	662	8	31	39	8	576	Au 626	De 459	497	494	3	.....	1,428,264	
9	Marble and stone work.....	4	24	9	.....	1	.....	14	Mh <sup>a</sup> 18	De 10	13	13	.....	.....	22,462	
10	Mineral and soda waters.....	6	30	4	2	1	1	22	Jy <sup>a</sup> 29	No <sup>a</sup> 16	20	20	.....	.....	34,443	
11	Models and patterns, not including paper patterns.....	7	47	7	1	1	1	37	Mh 45	De 32	33	32	1	.....	24,005	
12	Printing and publishing, book and job.....	32	313	30	23	22	8	230	Ja 250	No 203	223	165	57	1	.....	352,202
13	Printing and publishing, newspapers and periodicals.....	15	608	8	33	95	51	421	Fe 452	Se 382	411	332	70	9	.....	1,157,796
14	Slaughtering and meat packing.....	9	335	8	19	33	.....	275	De 308	Jy 259	309	309	.....	.....	1,019,607	
15	Tobacco, cigars.....	44	1,682	45	28	19	8	1,582	Fe 1,695	De 1,516	1,546	155	1,389	.....	2	802,358
16	Tools, not elsewhere specified.....	8	76	16	5	2	1	52	Fe <sup>a</sup> 58	De 43	50	50	.....	.....	68,821	
17	Machinists' tools.....	3	35	6	3	1	.....	25	Ja 37	Au <sup>a</sup> 18	26	26	.....	.....	41,025	
18	All other.....	5	41	10	2	1	1	27	My 33	De 17	24	24	.....	.....	27,796	
19	Toys and games.....	5	263	2	9	9	1	242	Oc 336	Ja 91	265	222	43	.....	263,145	
20	All other industries*.....	173	17,957	103	713	1,447	390	15,304	.....	.....	15,776	14,252	1,518	6	.....	54,489,346

\*All other industries embrace—

Aeroplanes and parts.....	1	Carpets, rag.....	2	Coffins, burial cases, and undertakers' goods.....	1	Flour-mill and gristmill products.....	3
Agricultural implements.....	2	Cars and general shop construction and repairs by steam-railroad companies.....	1	Cooperage.....	2	Food preparations, not elsewhere specified.....	4
Automobile bodies and parts.....	4	Cars, steam-railroad, not including operation of railroad companies.....	1	Dental goods.....	1	Fur goods.....	1
Automobiles.....	1	Cash registers and calculating machines.....	3	Electrical machinery, apparatus, and supplies.....	7	Furnishing goods, men's.....	2
Bags, other than paper.....	1	Chemicals.....	1	Electroplating.....	1	Gas, illuminating and heating.....	1
Baskets and rattan and willow ware.....	2	China, decorating, not including that done in potteries.....	2	Emery and other abrasive wheels.....	1	Gas machines and gas and water meters.....	2
Bookbinding and blank-book making.....	1	Clothing, men's.....	2	Engraving and diesinking.....	3	Glass, cutting, staining, and ornamenting.....	3
Boot and shoe cut stock.....	1	Coffee, roasting and grinding.....	3	Envelopes.....	1	Grease and tallow, not including lubricating greases.....	1
Brick.....	2			Fertilizers.....	1	Hand stamps.....	2
Butter.....	3			Files.....	1	Hardware.....	3
Buttons.....	1			Flags and banners.....	1		
Canning and preserving, fruits and vegetables.....	1			Flavoring extracts.....	3		

1 <b>SPRINGFIELD—All industries..</b>	253	9,614	242	340	880	284	7,868	Ja 8,836	No 6,739	7,950	7,148	794	8	.....	\$32,400,690
2 Agricultural implements.....	7	1,750	2	39	227	35	1,447	Ja 2,149	Oc 773	1,617	1,604	13	.....	.....	12,684,180
3 Artificial stone products.....	9	47	15	7	1	.....	24	Je 34	Fe 12	22	22	.....	.....	.....	25,925
4 Bread and other bakery products.....	27	143	31	2	5	2	103	Se <sup>a</sup> 110	Mh <sup>a</sup> 94	110	88	20	2	.....	196,571
5 Carriages and wagons.....	3	10	3	.....	.....	.....	7	Se 8	De 6	8	8	.....	.....	.....	12,600
6 Copper, tin, and sheet-iron work.....	6	53	10	2	1	2	38	De 47	Ja 27	48	48	.....	.....	.....	34,052
7 Engines, steam, gas, and water.....	7	650	3	15	51	19	562	Ap 655	De 431	427	422	5	.....	.....	1,901,555
8 Foundry and machine-shop products.....	33	1,497	23	60	94	34	1,286	Fe 1,425	No 1,031	1,257	1,253	4	.....	.....	3,697,265
9 Models and patterns, not including paper patterns.....	6	16	7	.....	.....	.....	9	Ja 10	Au 8	10	10	.....	.....	.....	5,170
10 Musical instruments, piano and organ materials.....	3	563	.....	12	8	3	540	Fe 604	Se 493	514	514	.....	.....	.....	1,177,613
11 Printing and publishing, book and job.....	18	185	19	10	6	10	140	No 154	My 133	154	114	40	.....	.....	317,269
12 Printing and publishing, newspapers and periodicals.....	9	710	3	35	132	37	503	Mh 575	De 452	467	352	115	.....	.....	1,844,445
13 Tobacco, cigars.....	14	68	16	1	.....	.....	51	Je 57	No <sup>a</sup> 47	55	31	23	1	.....	37,834
14 All other industries *.....	111	3,922	110	157	355	142	3,158	.....	.....	3,261	2,682	574	5	.....	10,466,211

*All other industries embrace—		Brooms.....	1	Dairymen's, poultrymen's, and apiarists' supplies.....	1	Furnishing goods, men's.....	1
Automobile bodies and parts.....	4	Butter.....	2	Electrical machinery, apparatus, and supplies.....	2	Furniture.....	4
Automobiles.....	1	Carpets, rag.....	2	Emery and other abrasive wheels.....	1	Gas and electric fixtures.....	2
Automobile repairing.....	1	Cars and general shop construction and repairs by electric-railroad companies.....	2	Electroplating.....	1	Gas, illuminating and heating.....	1
Awnings, tents, and sails.....	2	Clothing, men's.....	1	Engraving and diesinking.....	1	Hand stamps.....	1
Bookbinding and blank-book making.....	1	Coffee, roasting and grinding.....	2	Files.....	1	Ice, manufactured.....	2
Boxes and shoes.....	1	Coffins, burial cases, and undertakers' goods.....	3	Flags and banners.....	1	Instruments, professional and scientific.....	2
Boxes, cigar.....	1	Confectionery and ice cream.....	1	Flavoring extracts.....	1	Leather, tanned, curried, and finished.....	1
Boxes and cartons, paper.....	1			Flour-mill and gristmill products.....	4	Liquors, malt.....	3
Brass and bronze products.....	1			Food preparations, not elsewhere specified.....	1	Lumber and timber products.....	1

1 Owned power only.

2 Includes rented power, other than electric.

## MANUFACTURES—OHIO.

77

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$22,720	\$44,431	\$90,802	-----	\$11,222	\$1,072	\$291,862	\$9,906	\$527,725	\$225,957	351	33	-----	-----	318	6	1
22,320	41,675	73,537	-----	9,892	749	213,276	5,961	405,427	186,190	159	-----	-----	-----	159	3	2
400	2,756	17,265	-----	1,330	323	78,586	3,945	122,298	39,767	192	33	-----	-----	159	3	3
4,540	3,864	43,017	-----	2,625	1,320	80,805	225	177,867	96,837	51	-----	50	-----	1	-----	4
9,850	2,154	30,219	-----	2,470	371	104,420	1,110	164,713	59,183	183	90	8	60	25	150	5
300,388	314,316	1,850,871	\$8,856	38,438	35,637	2,190,532	160,027	5,585,634	3,235,075	5,066	1,750	664	-----	2,652	138	6
47,900	30,503	209,680	62	10,860	5,679	272,837	12,577	824,823	539,409	667	525	-----	-----	142	-----	7
70,578	36,830	416,122	73,390	6,143	9,278	1,134,976	15,845	1,899,216	748,395	1,799	1,510	207	-----	82	438	8
-----	936	11,369	-----	660	79	13,396	843	35,705	21,566	30	-----	-----	-----	30	8	9
2,700	1,040	18,410	-----	2,000	297	33,795	919	79,111	44,397	56	20	31	-----	5	-----	10
1,800	1,435	26,354	-----	1,756	103	7,447	647	49,768	41,674	100	-----	25	50	25	-----	11
58,607	28,806	122,822	448	18,917	2,400	141,595	4,987	472,842	326,260	294	-----	119	-----	175	-----	12
56,337	135,221	320,960	15,710	7,284	7,537	363,324	15,506	1,107,527	738,697	704	300	-----	-----	404	302	13
27,108	33,796	193,221	-----	240	10,425	3,819,716	26,502	4,830,647	984,429	669	415	20	-----	234	108	14
37,307	31,720	533,306	50	14,210	223,058	900,352	4,802	2,055,431	1,150,277	115	-----	8	-----	107	-----	15
6,507	2,417	33,865	-----	3,624	605	12,057	1,385	75,802	62,360	112	50	15	-----	47	-----	16
2,007	567	15,210	-----	960	362	4,197	457	23,400	18,746	70	50	15	-----	5	-----	17
4,500	1,850	18,655	-----	2,664	243	7,860	928	52,402	43,614	42	-----	-----	-----	42	-----	18
9,732	8,517	115,817	-----	7,030	913	241,539	3,491	476,318	231,288	162	-----	90	-----	72	-----	19
1,824,472	1,982,110	9,253,131	46,394	128,667	557,467	20,167,777	620,642	48,748,452	27,949,833	39,220	17,407	1,135	165	20,513	5,765	20

House-furnishing goods, not elsewhere specified.....	1	Paper and wood pulp.....	2	Roofing materials.....	1	Steam fittings and steam and hot-water heating apparatus.....	2
Ice, manufactured.....	2	Paper goods, not elsewhere specified.....	9	Rubber goods, not elsewhere specified.....	1	Stereotyping and electrotyping.....	1
Iron and steel, steel works and rolling mills.....	1	Patent medicines and compounds.....	9	Saddlery and harness.....	1	Stoves and hot-air furnaces.....	3
Jewelry.....	2	Peanuts, grading, roasting, cleaning, and shelling.....	1	Scales and balances.....	2	Structural ironwork, not made in steel works or rolling mills.....	2
Labels and tags.....	5	Perfumery and cosmetics.....	1	Screws, machines.....	1	Surgical appliances.....	1
Lasts.....	1	Photo-engraving.....	1	Screws, wood.....	1	Umbrellas and canes.....	1
Liquors, malt.....	3	Pickles, preserves, and sauces.....	2	Sewing machines and attachments.....	2	Varnishes.....	3
Lithographing.....	1	Plumbers' supplies, not elsewhere specified.....	2	Shirts.....	1	Vault lights and ventilators.....	2
Mattresses and spring beds.....	2	Pottery.....	2	Signs and advertising novelties.....	2	Wall plaster.....	1
Millinery and lace goods.....	1	Printing and publishing, music.....	1	Soap.....	5	Wirework, including wire rope and cable.....	1
Mucilage and paste.....	2	Pulp goods.....	1	Sporting and athletic goods.....	1	Wood, turned and carved.....	3
Paints.....	3	Pumps, steam and other power.....	3	Stationary goods, not elsewhere specified.....	3		

\$869,154	\$1,250,574	\$5,328,086	\$80,887	\$48,348	\$269,007	\$13,356,114	\$347,394	\$27,721,789	\$14,018,281	13,113	6,092	3,849	65	3,107	5,530	1
98,912	196,708	1,211,113	-----	600	70,345	2,663,676	69,462	5,761,511	3,028,373	2,436	2,106	205	-----	125	2,938	2
5,900	1,200	17,208	1,340	630	285	17,161	555	52,916	35,200	68	22	46	-----	-----	3	3
4,020	5,646	66,107	-----	4,435	1,631	228,209	7,937	397,516	161,370	134	-----	40	-----	94	4	4
2,700	1,157	24,964	-----	408	173	4,661	297	17,080	12,122	13	-----	-----	-----	13	5	5
-----	-----	-----	-----	1,354	245	32,381	441	75,978	43,156	40	-----	-----	-----	40	-----	6
38,091	93,946	404,635	-----	761	13,455	463,578	29,333	1,314,062	821,151	1,366	150	820	-----	396	658	7
142,636	138,951	877,537	9,693	6,252	21,681	1,703,799	63,521	3,794,058	2,026,738	2,516	760	957	-----	799	505	8
-----	-----	8,457	-----	840	20	1,584	177	18,230	16,469	16	-----	6	-----	10	-----	9
27,988	9,741	293,145	-----	-----	8,569	223,328	22,486	757,550	511,736	478	-----	400	-----	78	428	10
17,080	3,915	88,270	1,875	5,296	1,026	87,900	3,822	279,800	188,078	110	-----	10	-----	100	-----	11
205,392	329,885	341,755	26,281	3,046	15,017	1,197,428	12,976	3,159,482	1,949,078	501	375	-----	-----	126	291	12
1,000	-----	23,270	-----	1,454	11,641	22,289	348	72,068	49,431	10	-----	10	-----	-----	-----	13
325,435	469,427	1,965,525	21,698	23,272	124,919	6,710,120	136,039	12,021,538	5,175,379	5,425	2,679	1,355	65	1,326	710	14

Lumber, planing-mill products, not including planing mills connected with sawmills.....	2	Photographic apparatus.....	1	Springs, steel, car, and carriage.....	1	Suspenders, garters, and elastic woven goods.....	1
Marble and stone work.....	2	Photo-engraving.....	2	Stationary goods, not elsewhere specified.....	1	Tools, not elsewhere specified.....	5
Mattresses and spring beds.....	1	Pickles, preserves, and sauces.....	1	Steam fittings and steam and hot-water heating apparatus.....	2	Toys and games.....	3
Mineral and soda waters.....	2	Plumbers' supplies, not elsewhere specified.....	1	Stencils and brands.....	1	Washing machines and clothes wringers.....	1
Mirrors, framed and unframed.....	1	Pumps, not including power pumps.....	1	Stereotyping and electrotyping.....	1	Window and door screens.....	1
Musical instruments, pianos.....	1	Rubber goods, not elsewhere specified.....	2	Stoves and hot-air furnaces.....	1	Wirework.....	1
Paints.....	1	Saddlery and harness.....	1	Stoves, gas and oil.....	1	Wood, turned and carved.....	1
Paper goods, not elsewhere specified.....	1	Scales and balances.....	3	Structural ironwork, not made in steel works or rolling mills.....	1		
Patent medicines and compounds.....	4	Signs and advertising novelties.....	4				
		Slaughtering and meat packing.....	4				

\* Same number reported for one or more other months.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.			
					Male.	Female.	Average number.	Number, 15th day of—		Male.	Female.	Male.	Female.		
								Maximum month.							Minimum month.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

1	TOLEDO—All industries.....	713	31,885	545	981	2,368	915	27,076	Se 28,295	Jy 25,504	27,284	23,035	4,147	38	64	\$91,149,054
2	Artificial stone products.....	12	49	18	2	.....	.....	29	Je <sup>3</sup> 40	Ja <sup>3</sup> 18	31	31	.....	.....	.....	39,094
3	Automobile repairing.....	8	27	14	.....	.....	.....	13	Je 14	Fe 12	13	13	.....	.....	.....	43,265
4	Bookbinding and blank-book making	4	54	3	3	6	2	40	De 44	Ja 36	44	25	19	.....	.....	48,938
5	Boxes and cartons, paper.....	3	77	5	3	2	3	64	Se 78	Je 51	60	24	33	2	1	115,477
6	Bread and other bakery products....	76	779	87	24	58	31	579	No 608	Ja 549	587	467	120	.....	.....	845,513
7	Brick and tile, terra-cotta, and fire-clay products.....	5	211	.....	11	6	1	193	Au 254	Fe 109	200	200	.....	.....	.....	478,280
8	Brooms, from broom corn.....	5	32	5	1	1	.....	25	Fe 30	Jy 19	27	27	.....	.....	.....	36,800
9	Carpets, rag.....	5	27	4	1	5	1	16	My <sup>3</sup> 20	De <sup>3</sup> 12	14	11	3	.....	.....	15,127
10	Carriage and wagon materials.....	7	206	1	11	8	5	181	Fe 191	De 156	156	153	3	.....	.....	372,143
11	Carriages and wagons.....	9	406	8	26	44	10	318	Ja 351	Jy 286	321	317	4	.....	.....	1,733,724
12	Cars and general shop construction and repairs by steam-railroad companies.....	6	889	.....	20	50	5	814	Fe 1,078	Oc 626	743	743	.....	.....	.....	984,694
13	Clothing, women's.....	13	1,042	5	28	90	27	892	Mh 993	Je 737	917	321	596	.....	.....	790,494
14	Coffee, roasting and grinding.....	5	537	5	17	189	51	275	Se 313	De 236	258	158	81	1	18	3,239,361
15	Confectionery and ice cream.....	12	238	5	18	18	13	184	Oc 233	Jy 147	206	56	148	1	1	227,557
16	Cooperage and wooden goods, not elsewhere specified.....	8	98	5	6	.....	2	85	Au 98	Fe 73	84	65	18	.....	1	89,187
17	Copper, tin, and sheet-iron products.	35	812	33	27	31	23	698	Ja 770	De 595	604	486	115	2	1	4,239,344
18	Electrical machinery, apparatus, and supplies.....	11	1,028	4	19	55	32	918	Au 1,203	Fe 500	1,041	720	321	.....	.....	1,696,023
19	Flour-mill and gristmill products....	6	292	2	22	30	4	234	Se 251	My 220	243	242	1	.....	.....	2,751,580
20	Foundry and machine-shop products.	48	3,718	22	112	212	49	3,323	Au 3,564	De 2,975	2,929	2,908	20	1	.....	6,732,416
21	Furnishing goods, men's.....	3	870	.....	11	4	16	839	No 904	Fe 742	926	117	780	11	18	709,099
22	Furniture.....	16	444	12	23	18	17	374	Mh 424	De 318	326	321	4	.....	1	767,962
23	Glass, cutting, staining, and ornamenting.....	10	110	12	4	1	4	89	Au <sup>3</sup> 96	Ja 72	94	70	22	2	.....	43,885
24	Hosiery and knit goods.....	3	86	1	3	9	3	70	Ja 108	Au 30	103	5	95	.....	3	209,177
25	House-furnishing goods, not elsewhere specified.....	3	32	.....	6	5	2	19	Ap 26	Oc <sup>3</sup> 14	17	16	1	.....	.....	51,621
26	Leather goods.....	10	94	10	5	8	2	69	Ja 75	No 64	67	64	3	.....	.....	125,365
27	Liquors, malt.....	4	454	.....	13	40	5	396	Jy 472	Fe 352	369	369	.....	.....	.....	7,295,676
28	Lumber, planing-mill products, not including planing mills connected with sawmills.....	15	447	11	16	27	9	384	Jy 439	Ja 320	365	365	.....	.....	.....	1,013,245
29	Marble and stone work.....	8	97	6	12	13	3	63	My 80	Fe 41	61	61	.....	.....	.....	197,422
30	Mineral and soda waters.....	8	77	18	2	10	1	46	Je <sup>3</sup> 58	Ja 37	41	41	.....	.....	.....	60,781
31	Models and patterns, not including paper patterns.....	6	24	8	.....	.....	.....	16	Au 25	De 9	17	15	2	.....	.....	17,594
32	Paints.....	5	71	1	9	17	4	40	Ap <sup>3</sup> 46	De <sup>3</sup> 35	35	34	1	.....	.....	246,656
33	Patent medicines and compounds....	24	77	19	11	8	14	25	Je 29	Ja 22	29	17	12	.....	.....	96,613
34	Printing and publishing, book and job.....	55	567	50	39	38	40	400	De 411	Jy 383	411	331	75	5	.....	712,881
35	Job printing.....	49	534	45	36	30	33	890	De 401	Jy 373	401	321	75	5	.....	685,452
36	Book publishing without printing and linotype work.....	6	33	5	3	8	7	10	( <sup>4</sup> ) 10	( <sup>4</sup> ) 10	10	10	.....	.....	.....	27,429
37	Printing and publishing, newspapers, etc.....	24	700	7	42	178	81	392	Au 401	De 380	381	337	44	.....	.....	1,247,995
38	Printing and publishing.....	5	473	.....	17	138	51	267	De 285	Jy <sup>3</sup> 258	286	262	24	.....	.....	796,591
39	Printing, publishing, and job printing.....	4	202	2	15	36	24	125	Au 143	De 95	95	75	20	.....	.....	441,751
40	Publishing without printing.....	15	25	5	10	4	6	.....	.....	.....	.....	.....	.....	.....	.....	9,653
41	Structural ironwork, not made in steel works or rolling mills.....	6	397	4	7	36	5	345	Ja 405	No 297	298	298	.....	.....	.....	942,192
42	Tools, not elsewhere specified.....	4	27	4	7	.....	1	15	Ja <sup>3</sup> 25	Jy <sup>3</sup> 11	20	20	.....	.....	.....	36,209
43	Wall plaster.....	4	39	.....	7	6	2	24	Se 31	Ja <sup>3</sup> 16	21	21	.....	.....	.....	81,027
44	All other industries *.....	227	16,750	156	413	1,145	447	14,589	.....	.....	15,225	13,566	1,626	13	20	52,814,927

\*All other industries embrace—

Artificial limbs.....	1	Carriages and sleds, children's.....	3	Engines, steam, gas, and water.....	1	Hats and caps, other than felt, straw, and wool.....	2
Automobile bodies and parts.....	3	Cars and general shop construction and repairs by electric-railroad companies.....	1	Engraving, steel and copper plate, including plate printing.....	2	Ice, manufactured.....	2
Automobiles.....	2	China decorating, not including that done in potteries.....	1	Engraving, wood.....	1	Instruments, professional and scientific.....	2
Awning, tents, and sails.....	6	Cleaving and polishing preparations.....	1	Fancy articles, metal novelties.....	2	Iron and steel, blast furnaces.....	1
Bags, paper.....	1	Clothing, sponging and refinishing.....	1	Flavoring extracts.....	2	Iron and steel, steel works and rolling mills.....	2
Belting, leather.....	2	Clothing, men's.....	3	Food preparations, not elsewhere specified.....	2	Iron and steel, wrought pipe.....	2
Billiard tables and materials.....	1	Corsets.....	3	Fur goods.....	1	Jewelry.....	2
Blacking, stains, and dressings.....	1	Cutlery and edge tools.....	1	Gas and electric fixtures.....	2	Jute goods.....	1
Boxes, cigar.....	1	Dairymen's, poultrymen's, and apiarists' supplies.....	2	Gas, illuminating and heating.....	2	Lamps and reflectors.....	1
Boxes, wooden packing.....	3	Druggists' preparations.....	3	Glass.....	4	Lithographing.....	3
Brass and bronze products.....	7	Electroplating.....	2	Gloves and mittens, leather.....	1	Liquors, vinous.....	1
Brushes.....	2	.....	.....	Hand stamps.....	1	Looking-glass and picture frames.....	1
Butter.....	2	.....	.....	Hardware.....	1	.....	.....
Butter, reworking.....	1	.....	.....	.....	.....	.....	.....

<sup>1</sup> Owned power only.<sup>2</sup> Includes rented power, other than electric.



# MANUFACTURES—OHIO.

79

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$2,496,197	\$3,059,606	\$18,124,084	\$169,954	\$354,250	\$1,937,278	\$68,242,346	\$2,251,923	\$115,049,426	\$44,555,157	53,369	30,247	3,420	150	19,552	13,228	1
2,020	17,180	1,446	243	2,076	410	35,816	808	81,930	45,306	69	15	45	9	9	2	2
4,476	4,641	24,948	5,946	2,844	320	27,683	2,250	46,232	32,319	18	14	14	4	4	3	3
3,300	2,480	29,187	10	1,766	421	54,455	835	84,700	54,767	38	40	40	38	37	4	4
49,657	70,636	370,411	380	25,491	10,269	1,211,602	41,278	2,307,211	1,054,331	541	76	7	458	11	6	6
16,830	5,950	140,402	120	4,889	67,760	35,640	321,377	217,977	558	315	3	2	22	7	7	7
1,000	900	14,680	100	311	30,570	582	57,350	26,198	24	43	43	43	19	10	9	9
1,200	1,050	5,254	588	46	1,235	307	18,203	16,660	43	704	704	29	63	1,218	11	11
22,640	9,310	115,110	6,250	4,927	199,960	8,024	389,490	175,506	721	650	29	17	19	10	10	10
56,600	55,595	232,056	1,800	14,118	286,153	14,080	804,087	503,854	742	1,199	55	885	12	12	12	12
22,852	45,370	596,422	4,268	507,240	26,774	1,201,929	667,915	1,254	1,199	200	25	200	13	13	13	13
80,120	182,772	514,943	22,973	5,464	1,400,936	9,133	2,433,570	1,023,501	487	487	25	487	14	14	14	14
60,400	275,012	117,411	1,439	2,580	18,664	4,454,383	15,478	5,899,320	1,419,459	290	290	290	15	15	15	15
30,396	26,409	81,314	8,283	1,695	493,821	7,765	777,552	270,966	75	75	75	75	16	16	16	16
5,525	805	37,874	472	594	101,604	2,034	189,316	85,678	713	1,155	60	653	17	17	17	17
61,909	45,323	465,470	581	13,091	13,293	1,004,394	15,914	2,029,356	1,009,048	1,155	270	60	885	260	18	18
53,738	60,463	396,746	12,774	12,070	1,802,120	18,532	3,229,882	1,409,230	3,345	3,185	150	10	105	19	19	19
53,354	43,745	186,923	11,880	5,233,368	43,657	5,815,388	538,363	3,345	3,185	150	10	105	19	19	19	19
266,273	249,809	2,337,852	7,602	35,504	54,619	2,299,266	190,828	6,544,602	4,054,508	5,277	2,768	1,094	1,415	4,055	20	20
28,780	23,670	179,254	2,696	11,081	5,213	587,452	5,935	921,918	328,531	168	168	168	21	21	21	21
54,035	28,443	231,043	160	7,914	7,154	282,890	16,420	734,231	434,921	740	418	125	197	20	22	22
6,390	5,527	61,118	802	3,284	280	85,317	1,908	189,089	101,864	52	52	52	52	23	23	23
6,400	10,494	29,139	4,845	5,255	1,055	66,785	2,155	128,230	59,290	61	28	33	24	24	24	24
10,460	8,464	14,645	2,220	191	58,461	330	128,204	69,413	12	12	6	6	25	25	25	25
5,480	9,120	38,031	6,674	766	90,454	1,088	184,247	92,705	42	42	42	42	26	26	26	26
59,032	48,265	329,635	32,498	445,143	667,129	56,569	2,474,913	1,751,215	2,541	2,489	35	52	126	27	27	27
38,480	43,015	271,800	5,513	9,864	912,503	7,679	1,480,636	560,454	1,306	1,041	35	230	16	28	28	28
17,404	13,210	57,085	7,675	840	1,349	194,683	1,972	331,045	134,390	227	103	130	97	5	30	30
2,800	9,814	32,662	1,913	53,165	891	1,934	159,036	103,937	119	119	8	25	16	5	30	30
15,304	260	1,224	120	3,618	685	28,988	685	28,988	24,685	33	33	33	31	31	31	31
16,227	19,293	22,920	1,440	1,448	118,727	3,422	266,676	144,527	186	40	40	146	32	32	32	32
28,485	13,940	13,653	400	7,263	1,097	60,568	1,116	278,477	216,793	50	4	46	33	33	33	33
74,736	42,209	263,176	11,468	37,559	5,957	292,987	10,731	962,787	659,069	404	2	402	34	34	34	34
71,476	32,198	251,957	5,065	36,647	5,678	289,264	10,438	905,027	605,325	400	2	398	35	35	35	35
3,260	10,011	11,219	6,403	912	279	3,723	293	57,760	53,744	4	4	4	36	36	36	36
129,809	220,052	339,549	35,762	18,441	11,121	468,421	9,578	1,834,305	1,356,306	595	595	595	37	37	37	37
92,264	161,446	257,961	12,510	8,578	382,509	6,148	1,380,641	991,984	402	402	402	402	38	38	38	38
26,520	53,475	81,588	4,500	2,503	81,296	3,320	369,405	284,789	181	181	181	181	39	39	39	39
11,025	5,131	35,762	1,431	40	4,616	110	84,259	79,533	12	12	12	12	40	40	40	40
23,925	55,291	250,838	610	7,135	450,917	18,207	873,570	404,446	1,004	630	80	294	1,164	41	41	41
2,300	416	12,070	990	33	4,605	331	33,431	28,495	30	30	15	15	42	42	42	42
7,400	7,680	15,219	1,990	2,741	57,359	2,733	109,616	49,524	95	95	95	95	43	43	43	43
1,190,864	1,420,433	10,260,840	57,430	101,281	1,277,226	44,555,705	1,674,531	71,603,550	25,373,314	30,077	16,380	1,499	12,198	5,344	44	44

Lumber and timber products.....	1	Pens, fountain and stylographic.....	1	Saws.....	1	Stereotyping and electrotyping.....	1
Mattresses and spring beds.....	2	Perfumery and cosmetics.....	4	Scales and balances.....	1	Stoves and hot-air furnaces.....	2
Millinery and lace goods.....	3	Petroleum, refining.....	2	Shipbuilding, iron and steel.....	1	Stoves, gas and oil.....	1
Mirrors, framed and unframed.....	3	Photo-engraving.....	3	Shipbuilding, wooden, including boat building.....	7	Surgical appliances.....	1
Motorcycles, bicycles, and parts.....	1	Pickles, preserves, and sauces.....	3	Shirts.....	2	Tobacco, chewing and smoking, and snuff.....	1
Mucilage and paste.....	3	Plumbers' supplies, not elsewhere specified.....	3	Show cases.....	1	Tobacco, cigars.....	40
Musical instruments and materials, not specified.....	2	Pottery.....	1	Signs and advertising novelties.....	2	Toys and games.....	3
Musical instruments, pianos.....	1	Pulp goods.....	1	Slaughtering and meat packing.....	3	Umbrellas and canes.....	1
Oil, linseed.....	2	Pumps, not including power pumps.....	1	Soap.....	1	Wheelbarrows.....	1
Oil, not elsewhere specified.....	2	Refrigerators.....	1	Sporting and athletic goods.....	1	Window and door screens.....	2
Optical goods.....	1	Rubber goods, not elsewhere specified.....	2	Springs, steel, car and carriage.....	1	Wirework.....	2
Paper goods, not elsewhere specified.....	1	Safes and vaults.....	1	Statuary and art goods.....	1	Wood preserving.....	1
Paving materials.....	2	Sausage.....	1	Stencils and brands.....	3	Wood, turned and carved.....	2

<sup>1</sup> Same number reported for one or more other months.

<sup>2</sup> Same number reported throughout the year.

## MANUFACTURES—OHIO.

TABLE 55.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

1	YOUNGSTOWN—All industries..	201	18,224	148	352	1,507	356	15,861	Mh 17,449	De 13,491	15,919	15,052	863	4	\$130,101,772
2	Artificial stone products.....	9	61	7	4	1	1	48	Je 68	Ja 28	40	39	1		89,844
3	Bread and other bakery products.....	43	200	45	6	12	7	130	De 134	Ja 126	139	126	13		412,253
4	Confectionery and ice cream.....	7	91	7	2	6		76	Je 86	Ja 68	75	33	42		237,548
5	Foundry and machine-shop products.....	14	1,279	6	32	94	19	1,128	Ja 1,310	De 824	868	868			4,955,508
6	Iron and steel, steel works and rolling mills.....	8	8,232		66	524	47	7,595	Mh 8,584	No 6,442	8,222	8,218	4		64,928,461
7	Lumber, planing-mill products, not including planing mills connected with sawmills.....	12	415	6	33	23	10	343	Jy 468	De 260	267	266	1		1,415,160
8	Printing and publishing, book and job.....	6	136	5	11	15	7	98	Oc 108	De 93	93	64	29		182,057
9	Printing and publishing, newspapers and periodicals.....	15	243	8	15	57	18	145	Ap 148	Au 142	147	137	6	4	297,720
10	All other industries*.....	87	7,567	64	183	775	247	6,298			6,068	5,301	767		57,583,221

\* All other industries embrace—  
 Automobile bodies and parts..... 2  
 Awnings, tents, and sails..... 1  
 Brass and bronze products..... 1  
 Brooms..... 2  
 Butter..... 1  
 Carpets, rag..... 1  
 Carriages and wagons..... 1

Cars and general shop construction and repairs by electric-railroad companies..... 1  
 Cars and general shop construction and repairs by steam-railroad companies..... 2  
 Cars, steam-railroad, not including operations of railroad companies.. 1

Cleansing preparations..... 2  
 Clothing, men's..... 1  
 Coffee, roasting and grinding..... 1  
 Copper, tin, and sheet-iron work..... 4  
 Electrical machinery, apparatus, and supplies..... 2  
 Enameling..... 1  
 Flour-mill and gristmill products... 2

Food preparations, not elsewhere specified..... 3  
 Furniture..... 2  
 Gas and electric fixtures..... 1  
 Gas, illuminating and heating..... 2  
 Glass, cutting, staining, and ornamenting..... 2

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

1	ALLIANCE.....	52	2,806	46	122	274	31	2,333	Jy 2,568	No 2,061	2,394	2,325	66	3	\$8,665,344
2	ASHTABULA.....	57	2,032	39	58	47	20	1,868	Au 2,087	Ja 1,578	1,979	1,875	101	3	4,298,255
3	BARBERTON.....	34	3,714	32	58	413	93	3,118	Mh 3,423	De 2,779	3,017	2,609	407	1	14,624,143
4	BELLAIRE.....	40	2,865	34	50	138	40	2,603	Ja 2,832	Se 2,428	2,608	2,362	234	12	7,670,674
5	CAMBRIDGE.....	39	1,656	32	42	109	18	1,455	Mh 1,784	No 1,112	1,619	1,506	109	4	2,968,860
6	CHILICOTHE.....	46	1,758	36	38	97	30	1,557	Au 1,838	Ap 1,375	1,579	1,257	319	3	2,904,812
7	COSHOCOTON.....	47	1,840	24	67	67	68	1,614	Oc 1,640	Jy 1,581	1,644	1,009	635		2,629,780
8	EAST CLEVELAND.....	7	153	7	3	8	6	129	Se 158	Ja 107	139	134	5		288,864
9	EAST LIVERPOOL.....	80	5,180	68	152	86	44	4,830	Mh 4,943	Jy 4,638	4,818	3,557	1,235	13	6,593,376
10	ELYRIA.....	63	3,236	40	119	221	121	2,735	My 3,061	No 2,482	2,762	2,378	380	2	9,485,688
11	FINDLAY.....	78	2,041	58	76	124	46	1,737	Au 1,791	Ja 1,646	1,843	1,082	753	3	3,767,551
12	FOSTORIA.....	47	1,498	36	77	87	46	1,252	Ap 1,384	Jy 1,124	1,298	1,050	248		3,121,474
13	FREMONT.....	65	2,400	46	76	153	62	2,063	Oc 2,217	Ja 1,881	1,991	1,623	366	1	4,086,333
14	HAMILTON.....	129	6,923	100	196	459	125	6,043	Ja 6,642	No 5,648	6,068	5,274	778	16	21,887,892
15	TRONTON.....	59	1,602	48	58	50	26	1,420	Mh 1,671	No 1,009	1,504	1,264	219	17	5,254,995
16	LAKEWOOD.....	22	2,217	16	28	197	202	1,774	No 1,906	Jy 1,671	1,851	1,622	229		4,463,959
17	LANCASTER.....	53	1,784	50	43	100	8	1,583	Jy 1,693	Ja 1,473	1,537	1,101	436		1,589,321
18	LIMA.....	97	5,305	73	97	202	57	4,876	Se 5,330	De 4,286	5,103	3,847	1,255	1	10,201,164
19	LORAIN.....	66	7,266	42	292	393	103	6,436	Mh 7,874	No 4,945	7,330	7,240	88	2	38,360,423
20	MANSFIELD.....	103	4,106	89	135	382	102	3,398	Ap 3,712	No 2,923	3,360	2,633	722	5	10,459,468
21	MARIETTA.....	71	1,736	57	77	144	57	1,401	Je 1,535	Se 1,212	1,315	1,236	75	4	3,404,539
22	MARION.....	66	3,162	60	87	372	66	2,577	Mh 2,846	De 2,365	2,406	2,169	232	5	9,699,258
23	MASSILLON.....	70	2,096	45	96	130	57	1,768	Jy 1,964	De 1,276	1,628	1,465	163		7,482,679
24	MIDDLETOWN.....	63	4,841	46	159	471	162	4,003	Ap 4,362	No 3,594	4,014	3,533	481		23,974,223
25	MOUNT VERNON.....	27	882	19	23	52	16	772	Ap 818	De 721	730	696	19	15	1,891,704
26	NEWARK.....	79	5,143	81	100	277	102	4,583	Je 4,765	Jy 4,302	4,529	4,083	435	11	8,952,591
27	NORWOOD.....	58	6,853	36	216	564	229	5,808	Je 6,047	De 5,473	5,523	4,315	1,207	1	21,102,363
28	PIQUA.....	78	3,220	67	110	204	62	2,777	Mh 2,948	Jy 2,596	2,713	1,879	830	4	6,717,065
29	PORTSMOUTH.....	76	4,178	60	146	233	142	3,597	Fe 4,456	Ap 2,360	3,849	2,612	1,217	20	7,514,538
30	SANDUSKY.....	107	3,276	67	140	263	79	2,727	Ap 2,910	Ja 2,612	3,052	2,689	361	1	9,510,029
31	STEUENVILLE.....	60	4,937	63	93	243	32	4,506	My 4,991	De 3,490	4,804	4,578	215	11	19,387,008
32	Tiffin.....	76	2,585	86	81	163	78	2,177	Ap 2,268	Oc 2,047	2,158	1,759	345	54	5,314,470
33	WARREN.....	82	3,354	51	138	197	106	2,862	Ja 2,992	My 2,777	2,852	2,339	509	3	8,550,271
34	ZANESVILLE.....	97	3,469	78	97	198	61	3,035	Mh 3,289	Ja 2,649	3,167	2,651	513	3	5,862,172

¹ Owned power only.

² Includes rented power, other than electric.

# MANUFACTURES—OHIO.

81

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manu- facture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Elec- tric horse- power gen- erated in estab- lish- ments re- port- ing.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, includ- ing in- ternal revenue and cor- poration income.	Principal materials.	Fuel and rent of power.			Total.	Steam en- gines. <sup>1</sup>	In- ternal- com- bus- tion en- gines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Elec- tric (rent- ed).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$1,023,422	\$2,033,065	\$12,348,890	\$35,658	\$66,807	\$80,897	\$62,386,098	\$6,690,106	\$92,111,272	\$23,034,468	196,665	156,690	27,198	40	12,737	61,565	1
3,015	847	23,431	4,066	461	1,011	18,993	1,098	55,457	35,366	95	33	2	-----	60	-----	2
12,345	10,074	82,861	584	10,444	2,503	304,616	11,455	619,886	303,815	115	-----	25	-----	90	-----	3
2,340	6,165	37,008	500	6,304	1,417	79,471	4,392	189,235	105,372	265	-----	185	-----	80	-----	4
79,142	159,698	901,325	-----	750	40,783	1,989,161	86,911	3,077,945	1,001,873	4,481	1,310	60	-----	3,111	2,113	5
247,367	617,472	6,394,659	5,650	-----	331,069	37,779,298	2,083,814	48,796,464	8,933,852	113,065	99,025	10,800	-----	3,240	36,709	6
60,378	26,518	280,061	350	1,950	13,141	512,436	9,876	1,010,128	487,816	1,246	629	130	-----	487	-----	7
23,292	16,120	58,615	3,827	6,582	737	67,943	1,878	251,625	181,804	78	-----	-----	-----	78	-----	8
33,300	67,801	122,759	10,978	4,971	2,819	105,771	2,498	540,152	431,883	225	-----	-----	-----	225	-----	9
562,243	1,123,370	4,448,171	59,703	35,345	487,417	21,529,009	4,488,184	37,570,380	11,553,137	77,095	55,693	15,996	40	5,366	22,743	10

Gloves and mittens, leather.....	1	Mattresses and spring beds.....	2	Photo-engraving.....	1	Structural ironwork, not made in steel works or rolling mills.....	5
Ice, manufactured.....	1	Mineral and soda waters.....	3	Pickles, preserves, and sauces.....	2	Tobacco, cigars.....	8
Iron and steel, blast furnaces.....	4	Models and patterns, not including paper patterns.....	2	Rubber goods, not elsewhere specified.....	1	Tools, not elsewhere specified.....	1
Iron and steel, wrought pipe.....	1	Optical goods.....	1	Sausage.....	1	Trunks and valises.....	1
Jewelry.....	1	Paints.....	1	Signs and advertising novelties.....	1	Wall plaster.....	2
Liquors, distilled.....	1	Patent medicines and compounds.....	1	Slaughtering and meat packing.....	1		
Liquors, malt.....	1	Perfumery and cosmetics.....	1	Stoves and hot-air furnaces.....	3		
Marble and stone work.....	2						

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

\$212,078	\$308,598	\$1,616,999	\$11,037	\$7,626	\$49,840	\$3,465,255	\$191,131	\$7,174,766	\$3,518,380	4,678	3,701	327	-----	650	5,144	1
115,007	61,558	1,344,806	1,945	8,546	33,902	2,736,293	88,768	5,020,991	2,195,930	7,327	5,394	1,140	-----	793	4,220	2
219,448	649,195	1,733,854	8,681	2,382	105,122	3,844,658	260,917	8,843,422	4,737,847	7,211	6,568	290	-----	353	3,943	3
126,892	184,770	1,566,393	-----	5,424	98,775	8,199,842	1,078,578	12,170,206	2,891,786	14,890	12,902	1,003	-----	485	2,742	4
79,119	121,705	1,111,938	752	6,080	25,596	2,219,164	120,790	3,923,786	1,583,832	5,742	5,281	210	1	250	901	5
75,199	95,840	851,917	2,567	7,842	61,897	2,454,649	116,352	4,083,486	1,512,485	4,765	4,127	514	-----	124	400	6
148,771	188,151	804,727	1,920	7,046	24,421	1,756,380	57,274	3,476,686	1,603,032	3,501	2,239	508	3	691	170	7
5,009	13,364	81,393	1,410	1,410	2,135	137,634	9,556	295,786	148,596	397	243	-----	-----	154	-----	8
247,260	141,207	2,935,216	45,151	11,312	84,490	2,306,292	535,789	7,092,903	4,250,822	6,051	4,120	748	-----	1,183	278	9
275,398	356,235	1,759,067	150	17,539	66,624	4,870,397	145,939	8,791,734	3,775,398	10,814	6,090	2,181	600	1,943	3,549	10
146,507	137,455	778,029	3,398	5,723	94,001	2,670,186	120,907	4,662,778	1,871,685	3,561	1,869	988	-----	704	207	11
151,918	106,165	655,011	-----	10,729	35,495	4,268,952	100,013	6,124,679	1,755,714	3,563	1,729	1,049	-----	185	1,044	12
185,014	228,595	1,090,845	523	7,555	48,271	2,200,021	96,475	4,779,982	2,483,486	3,664	1,436	754	-----	1,474	443	13
506,856	710,779	3,564,504	11,598	37,552	238,325	8,584,466	430,526	16,877,260	7,862,268	16,767	13,762	1,546	32	1,427	7,571	14
107,028	63,688	720,734	20,634	8,324	103,453	2,834,095	460,008	4,666,185	1,372,082	15,147	13,809	784	2	492	671	15
131,960	407,510	1,021,994	420	3,490	94,158	1,478,225	125,711	3,606,498	2,002,562	2,969	1,150	369	-----	1,450	1,713	16
52,584	166,951	790,419	260	7,639	15,076	3,255,592	31,841	4,602,615	1,815,182	2,874	675	1,744	-----	455	390	17
308,071	273,831	3,177,520	7,774	29,910	309,435	6,178,846	190,262	11,598,580	5,229,472	7,618	4,520	524	-----	2,474	2,833	18
554,942	451,802	4,659,729	-----	8,217	340,323	14,541,945	3,987,438	28,110,037	11,180,653	211,182	207,377	474	-----	3,331	40,335	19
290,230	524,370	2,028,628	3,548	23,274	142,533	4,638,591	133,208	10,281,968	5,510,169	6,637	3,765	1,128	-----	1,744	1,001	20
136,225	158,549	843,584	90,626	8,202	53,536	2,321,417	61,372	4,123,618	1,745,829	3,117	2,065	743	-----	309	29	21
174,395	477,028	1,512,473	3,033	12,492	81,340	2,453,481	108,157	6,834,864	3,823,226	5,575	4,635	374	-----	566	6,085	22
197,452	148,756	1,165,860	-----	6,807	46,794	2,591,921	129,952	5,293,124	2,574,251	5,544	3,500	531	-----	1,513	2,178	23
419,116	743,464	2,888,440	4,281	45,052	2,260,772	9,785,990	794,004	21,737,151	11,207,157	36,328	32,982	391	610	1,345	12,946	24
47,908	74,638	443,954	-----	2,290	15,779	1,444,604	31,484	2,302,669	826,581	2,997	2,214	696	19	68	1,281	25
192,660	354,017	2,969,297	28,790	13,548	159,752	3,119,393	454,854	9,278,762	5,702,715	8,071	3,963	2,970	-----	1,133	4,305	26
509,595	684,267	3,613,982	13,328	17,699	648,655	7,081,402	135,543	16,724,360	9,507,410	9,865	8,770	493	-----	602	14,333	27
258,506	164,273	1,507,383	11,797	21,498	63,414	4,450,064	97,495	7,983,279	3,434,720	5,721	3,345	643	-----	1,733	1,170	28
256,383	415,894	1,750,595	19,008	6,958	10,319	3,980,187	98,927	7,682,145	3,603,031	5,099	3,385	990	-----	724	1,083	29
262,329	332,638	1,685,974	5,425	18,244	233,603	3,803,800	254,996	8,234,865	4,226,069	7,415	4,224	709	5	2,477	906	30
247,767	301,056	3,430,111	416	13,278	146,749	10,126,282	1,305,974	16,958,987	5,526,731	36,731	34,450	1,694	-----	587	16,462	31
143,008	194,747	1,409,961	27,176	13,025	78,427	2,234,724	156,941	4,995,830	2,604,215	4,464	1,409	682	260	2,113	517	32
285,850	264,395	1,933,259	10,670	13,780	50,021	6,154,258	209,247	10,399,737	4,045,232	5,749	3,351	65	-----	2,303	1,863	33
163,792	228,398	1,685,467	1,915	17,714	66,741	5,003,489	242,626	8,300,231	3,054,116	7,064	5,453	332	235	1,044	4,290	34

\* Same number reported for one or more other months.

DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS

SAM. L. ROGERS, DIRECTOR

CENSUS OF MANUFACTURES  
1914

OKLAHOMA

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

CONTENTS

	Page		Page
Explanation of terms.....	2	General statistics—Continued.	
General statistics.....	3	Size of establishments.....	11
General character of the state.....	3	Engines and power.....	15
Importance and growth of manufactures.....	3	Fuel.....	15
Flour-mill and gristmill products.....	5	Special statistics.....	16
Petroleum refining.....	5	Flour-mill and gristmill products.....	16
Smelting and refining, zinc.....	5	Oil, cottonseed, and cake.....	16
Oil, cottonseed, and cake.....	5	Petroleum, refining.....	16
Lumber and timber products.....	5	Printing and publishing.....	17
Printing and publishing.....	5	Laundries.....	17
Persons engaged in manufacturing industries.....	5	General tables:	
Wage earners employed, by months.....	8	Table 29.—Comparative summary for 1914, 1909, and 1904.....	18
Prevailing hours of labor.....	0	Table 30.—Detail statement for the state and for cities of 50,000	
Location of establishments.....	10	inhabitants or more, by industries, and for cities of 10,000 to	
Character of ownership.....	11	50,000 inhabitants: 1914.....	20



## EXPLANATION OF TERMS.

**Scope of census.**—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention should be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or whose products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

**Period covered.**—The returns relate to the calendar year 1914, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

**The establishment.**—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment.

**Classification by industries.**—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

As a rule, the same designation is used for the industry wherever it appears, although all of the products indicated by this designation were not manufactured in the state or city for which these statistics are presented. In some instances the wording is changed so as to more correctly describe the products represented. For a number of industries subclasses are shown which indicate more definitely the kind of products.

**Selected industries.**—The general tables at the end of this bulletin give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

**Comparisons with previous censuses.**—Owing to changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. At the census of 1909 the figures for kindred industries were combined. This practice, as a rule, has been followed in compiling the statistics of 1914 when placed in comparison with those for 1909 and prior years. The comparative summary for 1914, 1909, and 1904, therefore, does not show separately all the industries given for 1914 in the detailed statement for the state.

**Influence of increased prices.**—In comparing figures for cost of materials, value of products, and value added by manufacture in 1914 and 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

**Persons engaged in the industry.**—The following general classes of persons engaged in the manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. In comparative tables covering the census of 1904 it is of course necessary to group the figures according to the classification that was employed at the earlier censuses.

The number of persons engaged in each industry, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date was not a representative day an earlier date was chosen.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained approximates the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined for any state, because, in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation. This total, however, is shown for the different cities, because the limited area and greater regularity of employment largely overcame the objection incident to its publication for the separate states or the United States.

In particular, totals by sex and age for the wage earners reported for the representative day for all industries combined would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for a given state as a whole, the per cent distribution by sex and age of the wage earners in each industry for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year in that industry to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added to give the average distribution for each state as a whole and for the entire country.

**Salaries and wages.**—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and represent the approximate number who would be required to perform the work in any industry if all were continuously employed during the year, whereas the actual number to whom the total wages paid would be larger.

**Prevailing hours of labor.**—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

**Capital.**—The instructions on the schedule for securing data relating to capital were as follows:

"The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises."

These instructions were identical with those employed at the census of 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating very general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

**Materials.**—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

**Rent and taxes.**—The taxes include internal revenue, corporation income tax, and state, county, and local taxes. In some instances the amount of the corporation tax for 1914 had not been ascertained when the report was prepared and the amount paid for 1913 was therefore given.

**Value of products.**—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

**Value added by manufacture.**—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

**Cost of manufacture and profits.**—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of interest or depreciation, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

**Primary horsepower.**—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use, since in most cases an engine or motor is not required to deliver continuously its full rated horsepower.

**Fuel.**—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.

# OKLAHOMA.

By LESLEY E. VOORHEES.

## GENERAL STATISTICS.

**General character of the state.**—The territory of Oklahoma and Indian Territory were admitted to the Union as one state under the name of Oklahoma, November 16, 1907. Therefore, for the census years preceding the consolidation, the statistics of the two territories have been combined in this report for the purposes of comparison.

The state ranks seventeenth in size among the states, having an area of 70,057 square miles, of which 69,414 represent land surface. Its inhabitants in 1900 numbered 790,391, and in 1910, 1,657,155, and its estimated population in 1914 was 2,027,000. In this respect Oklahoma ranked twenty-third among the states in 1910, while in density of population it ranked thirty-second, with 23.9 inhabitants per square mile, the corresponding figure for 1900 being 11.4. The percentage of increase in population during the decade 1900-1910 was greater than for any state except Washington.

The urban population in 1910—that is, the population residing in incorporated places of 2,500 inhabitants or more—was 320,155, or 19.3 per cent of the total, as against 7.4 per cent in 1900. There were in the state in 1914 nine cities each having an estimated population of more than 10,000—Chickasha, Enid, Guthrie, McAlester, Muskogee, Oklahoma City, Sapulpa, Shawnee, and Tulsa. These cities, whose aggregate population in that year formed 11.7 per cent of the estimated total population of Oklahoma, reported 35.6 per cent of the state's manufactured products.

The steam-railway mileage of Oklahoma, as reported by the Interstate Commerce Commission in 1914, was 6,398, and the electric-railway mileage in 1912 (the latest year for which figures are available) was 232. The Arkansas and Red Rivers are navi-

gable for boats of light draft for some distance, thus giving water connections with the lower Mississippi.

The total value of all farm crops in 1909 was \$133,454,405, the most important being corn and cotton (including cotton seed), valued at \$48,080,554 and \$41,187,408, respectively. The value of domestic animals sold or slaughtered on farms was \$61,099,694, Oklahoma ranking ninth in that year.

The mineral production of the state in 1914 was valued at \$78,744,447, the most important items being petroleum, \$57,253,187; bituminous coal, \$8,204,015, and natural gas, \$8,050,039. Oklahoma ranked first among the states in 1914 in value of marketed production of petroleum and fourth in value of natural gas, the value of its output of the two products combined, representing approximately one-fifth of the total for the United States.

**Importance and growth of manufactures.**—In 1914 the value of the products of the manufacturing industries of Oklahoma amounted to \$102,005,693, and the total average number of wage earners employed was 17,443. The state ranked thirty-fourth in value of products in that year and fortieth in 1909, while in average number of wage earners it ranked thirtieth at both censuses. In 1914, as compared with the total value of products of manufactures for the United States, Oklahoma's proportion was small, four-tenths of 1 per cent. The corresponding proportions for 1909 and 1904 were three-tenths of 1 per cent and two-tenths of 1 per cent, respectively.

Table 1 summarizes the more important data relative to all classes of manufactures combined in the state, for the censuses of 1914, 1909, 1904, and 1899, and gives percentages of increase from census to census.

Table 1	MANUFACTURING INDUSTRIES.				PER CENT OF INCREASE. <sup>1</sup>		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	2,518	2,310	1,123	495	9.0	105.7	126.9
Persons engaged.....	22,700	18,034	7,456	( <sup>2</sup> )	25.9	141.9	.....
Proprietors and firm members.....	2,464	2,698	1,187	( <sup>2</sup> )	-8.7	127.3	.....
Salaried employees.....	2,793	2,193	813	269	27.4	169.7	202.2
Wage earners (average number).....	17,443	13,143	5,456	2,381	32.7	140.9	129.1
Primary horsepower.....	97,308	71,139	29,608	11,572	36.8	140.3	155.9
Capital.....	\$65,477,654	\$38,872,938	\$16,124,417	\$4,054,391	68.4	141.1	297.7
Salaries and wages.....	14,213,375	9,285,472	3,517,822	1,112,729	53.1	104.0	216.1
Salaries.....	3,202,332	2,045,295	718,420	218,662	56.6	184.7	228.6
Wages.....	11,011,043	7,240,177	2,799,402	894,067	52.1	158.6	213.1
Paid for contract work.....	307,885	373,954	91,140	( <sup>2</sup> )	-17.7	310.3	.....
Rent and taxes (including internal revenue).....	909,729	562,667	188,848	( <sup>2</sup> )	61.7	.....	.....
Cost of materials.....	70,969,750	34,152,894	16,393,952	5,430,447	107.8	108.3	201.9
Value of products.....	102,005,693	53,682,405	24,459,107	8,133,936	90.0	119.5	200.7
Value added by manufacture (value of products less cost of materials).....	31,035,943	19,529,511	8,065,155	2,703,489	58.9	142.1	198.3

<sup>1</sup> A minus sign (-) denotes decrease.

<sup>2</sup> Figures not available.

<sup>3</sup> Exclusive of internal revenue.



There was a remarkable growth in the manufactures of the state during the 15 years covered by Table 1. During the earlier five-year periods every item in the table more than doubled, while the increases for the last five-year period, though not so large, show a rapid development. The increases in average number of wage earners, value of products, and value added by manufacture, during the latter period were 32.7 per cent, 90 per cent, and 58.9 per cent, respectively, while the corresponding percentages for the United States as a whole were only 6.4, 17.3, and 15.8. The de-

crease in proprietors and firm members is explained in the discussion of Table 4; the decrease in the amount paid for contract work, 17.7 per cent, is not significant because the amount depends largely upon the method of operation and not upon the magnitude of the transactions.

Table 2 shows the relative importance of the leading manufacturing industries in 1914, and gives percentages of increase for the three five-year periods from 1899 to 1914.

Table 2

Table 2	CENSUS OF 1914.								PER CENT OF INCREASE. <sup>1</sup>								
	INDUSTRY.	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.		
			Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
All industries.....	2,518	17,443	100.0	\$102,005,693	100.0	\$31,035,943	100.0	32.7	140.9	129.1	90.0	119.5	200.7	58.9	142.1	198.3	
Flour-mill and gristmill products.....	253	700	4.0	16,688,690	16.4	2,321,724	7.5	-16.9	36.5	78.8	-12.8	59.3	155.0	-12.4	44.7	121.3	
Petroleum, refining.....	23	516	3.0	13,014,372	12.8	3,423,635	11.0	.....	.....	.....	1,133.6	.....	.....	613.1	.....	.....	
Smelting and refining, zinc.....	6	1,641	9.4	9,938,743	9.7	2,059,289	6.6	189.9	.....	.....	231.1	.....	.....	137.0	.....	.....	
Oil, cottonseed, and cake.....	60	851	4.9	7,589,813	7.4	1,306,410	4.2	46.5	17.1	123.4	46.3	66.8	255.7	38.7	24.6	181.0	
Lumber and timber products.....	284	2,651	15.2	4,113,522	4.0	2,428,260	7.8	-16.5	.....	.....	-7.3	.....	.....	-17.7	.....	.....	
Printing and publishing.....	624	1,619	9.3	4,023,851	3.9	3,100,410	10.0	-4.7	49.1	118.2	0.9	89.9	216.9	3.9	83.4	216.1	
Foundry and machine-shop products..	122	886	5.1	3,173,342	3.1	1,499,416	4.8	93.9	277.7	426.1	131.4	488.4	294.9	91.2	399.4	460.7	
Bread and other bakery products.....	342	697	4.0	2,773,811	2.7	1,193,015	3.9	66.7	166.2	390.6	54.6	159.2	620.8	44.6	192.6	442.3	
Cars and general shop construction and repairs by steam-railroad com- panies.....	13	1,718	9.8	2,270,374	2.2	1,314,629	4.2	21.7	415.3	.....	33.4	222.3	568.4	24.0	414.6	281.5	
Glass.....	12	1,270	7.3	2,005,736	2.0	1,285,928	4.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Ice, manufactured.....	97	528	3.0	1,604,146	1.6	1,202,018	3.9	17.6	127.9	258.2	26.0	141.1	371.4	24.4	137.3	402.5	
Butter.....	14	46	0.3	808,978	0.8	135,681	0.4	.....	.....	.....	-29.6	.....	.....	-38.7	.....	.....	
Coffee, roasting and grinding.....	6	60	0.3	756,677	0.7	138,311	0.5	.....	.....	.....	51.4	.....	.....	95.8	.....	.....	
Confectionery (ice cream).....	51	99	0.6	636,753	0.6	259,868	0.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Explosives.....	6	73	0.4	538,015	0.5	217,896	0.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Brick.....	23	402	2.3	495,903	0.5	366,449	1.2	-44.9	82.0	83.9	-51.8	101.8	175.7	-54.3	110.2	148.1	
Copper, tin, and sheet-iron work.....	72	141	0.8	474,484	0.5	233,102	0.8	-39.5	237.7	.....	-40.7	271.6	.....	-39.9	259.3	.....	
Mineral and soda waters.....	108	122	0.7	472,235	0.5	262,657	0.9	-14.7	18.2	290.3	3.7	60.2	381.4	-15.5	59.8	351.2	
Clothing, men's, including shirts.....	6	207	1.2	417,442	0.4	155,634	0.5	83.2	.....	.....	114.9	.....	.....	127.9	.....	.....	
Saddlery and harness.....	30	54	0.3	367,701	0.4	128,095	0.4	.....	.....	.....	-1.9	33.9	78.3	-14.1	17.3	101.4	
Marble and stone work.....	55	142	0.8	339,575	0.3	217,586	0.7	-3.4	133.3	.....	-18.7	294.3	.....	-5.6	220.8	.....	
Wall plaster.....	6	151	0.9	313,216	0.3	209,663	0.7	-41.7	.....	.....	-27.9	.....	.....	-22.4	.....	.....	
Confectionery.....	37	57	0.3	294,504	0.3	129,635	0.4	.....	.....	.....	156.5	.....	.....	132.1	.....	.....	
Mattresses and spring beds.....	11	75	0.4	268,378	0.3	104,301	0.3	.....	.....	.....	75.2	.....	.....	92.6	.....	.....	
Brooms, from broom corn.....	36	97	0.6	227,224	0.2	120,068	0.4	.....	.....	.....	-8.5	244.4	620.0	16.5	151.2	583.3	
Food preparations, not elsewhere specified.....	11	41	0.2	219,522	0.2	76,961	0.2	.....	.....	.....	25.7	.....	.....	8.4	.....	.....	
All other industries.....	210	2,599	14.9	28,178,686	27.6	7,145,302	23.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	

<sup>1</sup> Percentages are based on figures in Table 29; a minus sign (-) denotes decrease; percentages are omitted where base is less than 100, or where comparable figures can not be given.

Separate statistics are presented for 26 industries, or industry groups, for each of which products valued at more than \$200,000 were reported for 1914. These industries include 2 with products exceeding \$10,000,000 in value, 2 with products between \$5,000,000 and \$10,000,000, 7 with products between \$1,000,000 and \$5,000,000, and 15 with products valued at less than \$1,000,000. Among those industries included in "all other industries" are cement, cordage and twine, the killing and dressing of poultry, and slaughtering and meat packing, each of which have products valued at more than \$200,000, but statistics for which can not be shown separately without disclosing individual operations.

The industries in this table are arranged in the order of their importance, as shown by value of products, but the arrangement for most of the industries would vary considerably from that given if based on average number of wage earners or value added by manu-

facture. Slaughtering and meat packing, an industry for which statistics can not be shown separately, ranked first in value of products and value added by manufacture and sixth in number of wage earners. The flour-mill and gristmill industry, ranking second in value of products, was ninth in number of wage earners and fifth in value added by manufacture. This industry requires comparatively few wage earners, as the processes are largely carried on by machinery, and consequently the value added by manufacture is small in proportion to that of most other industries. Petroleum refining, third in value of products, was twelfth in number of wage earners and second in value added by manufacture. Smelting and refining, zinc, fourth in value of products, was third in number of wage earners and sixth in value added by manufacture. Oil, cottonseed, and cake, fifth in value of products, was eighth in number of wage earners and ninth in value added by manu-

facture. Lumber and timber products, sixth in value of products, was first in number of wage earners and fourth in value added by manufacture, while printing and publishing, seventh in value of products, was fourth in number of wage earners and third in value added by manufacture.

In rank according to value of products, there were many changes in 1914 as compared with 1909. Slaughtering and meat packing, by far the most important industry in the state in 1914, held thirteenth place in 1909. Foundry and machine-shop products, eighth in order of importance, held the same rank at both censuses. Flour-mill and gristmill products and the smelting and refining of zinc, as previously stated, ranked second and fourth, respectively, in 1914 but were first and fifth in 1909. Petroleum refining advanced from eleventh place in 1909 to third place in 1914. Oil, cottonseed, and cake, the lumber and timber industry, and printing and publishing dropped in rank from second, third, and fourth places in 1909 to fifth, sixth, and seventh, respectively, in 1914. For most of the remaining industries, changes from census to census are noticeable. Of the industries shown in the table, petroleum refining shows the largest increase in value of products during the period 1909-1914 (1,133.6 per cent) and smelting and refining, zinc, foundry and machine-shop products, clothing, men's, including shirts, and confectionery each more than doubled in value of products.

*Flour-mill and gristmill products.*—This industry does not include data for the small custom mills grinding for toll or local consumption exclusively. The figures show that during the two earlier five-year periods and for the decade 1904-1914 the industry increased rapidly, although the totals for 1914 indicate a considerable decrease, as compared with those for 1909. This condition is similar to that shown for the industry in other states.

*Petroleum, refining.*—The statistics for this industry show its remarkable growth in the state during the past few years. In 1909, when it was reported for the first time, there were only 9 establishments, with products valued at \$1,055,011. By 1914 the number of establishments had more than doubled, and the value of products had increased to \$13,014,372, a more than tenfold increase.

*Smelting and refining, zinc.*—While this industry shows the smallest number of establishments of any of the more important industries given in the table, its value of products ranks fourth among the industries of the state. During the five-year period 1909-1914 the number of establishments doubled, the number of wage earners increased 189.9 per cent, while the value of products and the value added by manufacture increased 231.1 per cent and 137 per cent, respectively.

*Oil, cottonseed, and cake.*—The statistics include those for all establishments engaged primarily in extracting oil from the cotton seed or in refining crude oil. The

industry shows a decided increase in all items during each of the five-year periods from 1899 to 1914.

*Lumber and timber products.*—The operations of logging camps, sawmills, planing mills, and wooden-box factories are included under this classification for comparative purposes. The industry as a whole shows a decrease from 1909 to 1914. This loss is largely in the value of products reported for the planing mills operated independently of sawmills. The logging camps and sawmills show the greatest decrease in number of establishments, wage earners employed, and value added by manufacture. In 1914, as in 1909, the lumber and timber industry reported more wage earners than any other industry in the state.

*Printing and publishing.*—Besides the printing and publishing of newspapers and periodicals, books, music, and job printing, this classification includes, for comparative purposes, those establishments engaged in bookbinding and blankbook making, and in engraving, steel and copper plate, including plate printing. The newspaper and periodical branch of the industry is by far the most important, reporting over 85 per cent of the number of establishments and 80 per cent of the value of products. For the combined industry, the increase in value of products from 1909 to 1914 was very small, only nine-tenths of 1 per cent, while the average number of wage earners during this period decreased 4.7 per cent.

**Persons engaged in manufacturing industries.**—Table 3 shows, for 1914 and 1909, the number of persons engaged in manufactures, distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

CLASS.	Census year.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.				
		Total.	Male.	Female.	Per cent of total.	
					Male.	Female.
All classes.....	1914	22,700	21,295	1,405	93.8	6.2
	1909	18,034	17,071	963	94.7	5.3
Proprietors and officials.....	1914	3,569	3,493	76	97.9	2.1
	1909	3,630	3,547	83	97.7	2.3
Proprietors and firm members...	1914	2,464	2,394	70	97.2	2.8
	1909	2,698	2,628	70	97.4	2.6
Salaried officers of corporations..	1914	355	353	2	99.4	0.6
	1909	284	278	6	97.9	2.1
Superintendents and managers..	1914	750	746	4	99.5	0.5
	1909	648	641	7	98.9	1.1
Clerks and other subordinate salaried employees.	1914	1,688	1,353	335	80.2	19.8
	1909	1,261	1,059	202	84.0	16.0
Wage earners (average number)....	1914	17,443	16,449	994	94.3	5.7
	1909	13,143	12,465	678	94.8	5.2
16 years of age and over.....	1914	17,309	16,320	989	94.3	5.7
	1909	13,020	12,345	675	94.8	5.2
Under 16 years of age.....	1914	134	129	5	96.3	3.7
	1909	123	120	3	97.6	2.4

In 1914 there were 22,700 persons reported as engaged in the manufactures of the state, of whom 17,443,

## MANUFACTURES—OKLAHOMA.

or over three-fourths, were wage earners; 3,569 were proprietors and officials; and 1,688 were clerks and other subordinate salaried employees. Of the latter class, 19.8 per cent were females, a slightly larger proportion than in 1909, when 16 per cent were females. Of the wage earners 16 years of age and over, 16,320, or 94.3 per cent, were males, and 989, or 5.7 per cent,

females. Figures for the sex and age distribution of wage earners for individual industries will be found in Table 30.

Table 4 gives, for the several classes of persons engaged in manufactures, the percentages of increase from 1909 to 1914 and the per cent distribution at the two censuses.

Table 4

Table 4	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.								
	Per cent of increase, <sup>1</sup> 1909-1914.			Per cent distribution.					
	Total.	Male.	Female.	Total.		Male.		Female.	
				1914	1909	1914	1909	1914	1909
All classes.....	25.9	24.7	45.9	100.0	100.0	100.0	100.0	100.0	100.0
Proprietors and officials.....	-1.7	-1.5	.....	15.7	20.1	16.4	20.8	5.4	8.6
Proprietors and firm members.....	-8.7	-8.9	.....	10.9	15.0	11.2	15.4	5.0	7.3
Salaried officers of corporations.....	25.0	27.0	.....	1.6	1.6	1.7	1.6	0.1	0.6
Superintendents and managers.....	15.7	16.4	.....	3.3	3.6	3.5	3.8	0.3	0.7
Clerks and other subordinate salaried employees.....	33.9	27.8	65.8	7.4	7.0	6.4	6.2	23.8	21.0
Wage earners (average number).....	32.7	32.0	46.6	76.8	72.9	77.2	73.0	70.7	70.4
16 years of age and over.....	32.9	32.2	46.5	76.3	72.2	76.6	72.3	70.4	70.1
Under 16 years of age.....	8.9	7.5	.....	0.6	0.7	0.6	0.7	0.4	0.3

<sup>1</sup> A minus sign (—) denotes decrease; percentages are omitted where base is less than 100.

With the exception of proprietors and firm members, the table shows increases for the five-year period in the total number of the several classes of persons engaged in manufacturing industries. The decrease in the number of proprietors and firm members was due largely to the decrease in the small lumber mills and gristmills operated by individuals and firms, and also to the fact that some establishments operated under this form of ownership in 1909 were incorporated during the period between the censuses and reported as corporations in 1914. In such cases the same individuals reported as proprietors or firm members at the former census were in some instances returned as salaried officers of corporations at the latter. While there was an increase of only 427 in the number of clerks and other subordinate salaried employees, the percentage of gain, 33.9 per cent, is the largest shown for any of the classes. The average number of wage earners 16 years of age and over, which constituted 76.3 per cent of the total number of persons employed in 1914 and 72.2 per cent in 1909, shows an increase of 32.9 per cent between these years. Wage earners under 16 years of age also show a slight increase for the period 1909-1914, but the proportion which this class formed of the total number of wage earners was only six-tenths of 1 per cent in 1914 and seven-tenths in 1909.

In order to compare the distribution of persons engaged in manufactures in 1914 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See "Explanation of terms.") Table 5 makes this comparison according to occupational status.

Each of the classes enumerated in this table shows an increase for both five-year periods, except pro-

prietors and firm members, for which the decrease has been explained. The increases, however, are much greater for the earlier than for the later five-year period.

Table 5

CLASS.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.								
	Number.			Per cent distribution.			Per cent of increase. <sup>1</sup>		
	1914	1909	1904	1914	1909	1904	1909-1914	1904-1909	
Total.....	22,700	18,034	7,456	100.0	100.0	100.0	25.9	141.9	
Proprietors and firm members.....	2,464	2,698	1,187	10.9	15.0	15.9	-8.7	127.3	
Salaried employees.....	2,793	2,193	813	12.3	12.2	10.9	27.4	169.7	
Wage earners (average).....	17,443	13,143	5,456	76.8	72.9	73.2	32.7	140.9	

<sup>1</sup> A minus sign (—) denotes decrease.

The average number of wage earners employed and their per cent distribution as males 16 years of age and over, females 16 years of age and over, and children under 16 years of age are given in Table 6 for 1914, 1909, and 1904. The table also shows, for some of the important industries separately, a similar distribution of wage earners for 1914 and 1909.

For all industries combined, the actual number of wage earners shows an increase at each successive census period. In 1914, 93.6 per cent of the number were males. The proportion of females over 16 years of age and of children each show a decrease during the decade.

Most of the industries, for which separate figures are shown in the table, are of a character which normally employ only men, so that, with two exceptions, either there are no women employed or the proportion is exceedingly small.

Of the 11 industries for which separate figures are given, only three show an increased proportion of males in 1914, as compared with 1909. In bread and other bakery products, the proportion of females over 16 years of age was 8.1 per cent in 1909, while in 1914 it had increased to 23.8. On the other hand, in printing and publishing, an industry which also

reports a comparatively large number of women, the proportion decreased from 17.4 per cent in 1909 to 14.5 in 1914. Children under 16 show insignificant proportions for all the industries, except printing and publishing, where an increase from 2.8 per cent in 1909 to 6.1 per cent in 1914 is shown.

INDUSTRY.	Census year.	WAGE EARNERS.				INDUSTRY.	Census year.	WAGE EARNERS.			
		Average number. <sup>1</sup>	Per cent of total.					Average number. <sup>1</sup>	Per cent of total.		
			16 years of age and over.		Under 16 years of age.				16 years of age and over.		Under 16 years of age.
			Male.	Fe- male.					Male.	Fe- male.	
All industries.....	1914 1909 1904	17,443 13,143 5,456	93.6 93.9 92.0	5.7 5.1 6.0	0.8 0.9 2.0	Lumber and timber products.....	1914 1909	2,651 3,175	99.7 99.7	0.2 (2)	0.2 0.2
Bread and other bakery products.....	1914 1909	697 418	75.6 90.4	23.8 8.1	0.6 1.4	Oil, cottonseed, and cake.....	1914 1909	851 581	100.0 100.0	.....	.....
Brick.....	1914 1909	402 730	99.8 99.7	.....	0.2 0.3	Petroleum, refining.....	1914 1909	516 75	100.0 100.0	.....	.....
Cars and general shop construction and repairs by steam-railroad companies.	1914 1909	1,718 1,412	99.8 97.8	0.2 0.1	..... 2.1	Printing and publishing.....	1914 1909	1,619 1,698	79.4 79.9	14.5 17.4	6.1 2.8
Flour-mill and gristmill products.....	1914 1909	700 842	100.0 99.8	.....	..... 0.2	Smelting and refining, zinc.....	1914 1909	1,641 566	100.0 100.0	.....	.....
Foundry and machine-shop products.....	1914 1909	886 457	99.7 100.0	0.1 .....	0.2 .....	All other industries.....	1914 1909	5,234 2,740	88.6 86.6	11.0 12.6	0.4 0.9
Ice, manufactured.....	1914 1909	528 449	98.9 98.9	0.4 .....	0.8 1.1						

<sup>1</sup> For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see "Explanation of terms."

<sup>2</sup> Less than one-tenth of 1 per cent.

Table 7 shows the average number and the per cent distribution of wage earners employed in each of the nine cities having more than 10,000 inhabitants,

classified according to age periods, and in the case of those 16 years of age and over, according to sex, for 1914, 1909, and 1904.

SEX AND AGE.	Census year.	AVERAGE NUMBER OF WAGE EARNERS IN—								
		Chickasha.	Enid.	Guthrie.	McAlester.	Muskogee.	Oklahoma City.	Sapulpa.	Shawnee.	Tulsa.
Total.....	1914	337	283	185	171	828	2,226	433	845	845
	1909	364	303	282	180	381	1,398		1,806	462
	1904			333			720			
16 years of age and over:										
Male.....	1914	326	252	137	160	751	1,904	407	728	801
	1909	356	275	247	164	360	1,245		730	428
	1904			297			665			
Female.....	1914	11	30	32	9	73	316	15	102	40
	1909	5	28	18	16	15	145		73	25
	1904			26			37			
Under 16 years of age.....	1914		1	16	2	4	6	11	15	4
	1909	3		17		6	8		3	9
	1904			10			18			
Per cent of total:										
16 years of age and over—										
Male.....	1914	96.7	89.0	74.0	93.6	90.7	85.5	94.0	86.2	94.8
	1909	97.8	90.8	87.6	91.1	94.5	89.1		90.6	92.6
	1904			89.2			92.4			
Female.....	1914	3.3	10.6	17.3	5.3	8.8	14.2	3.5	12.1	4.7
	1909	1.4	9.2	6.4	8.9	3.9	10.4		9.1	5.4
	1904			7.8			5.1			
Under 16 years of age.....	1914		0.4	8.6	1.2	0.5	0.3	2.5	1.8	0.5
	1909	0.8		6.0		1.6	0.6		0.4	1.9
	1904			3.0			2.5			

<sup>1</sup> Figures do not agree with those published because certain establishments revised their reports for that census.

The number of wage earners employed in Oklahoma City increased 209.2 per cent during the decade shown in the table and 59.2 per cent during the period 1909–1914. During the latter period the male wage earners

over 16 years of age increased 52.9 per cent and females, 117.9 per cent. The opposite was true in Guthrie, decreases being shown for both five-year periods for the total number and for males over 16 years of age.

Muskogee shows an increase of 447, or 117.3 per cent, in the total average number of wage earners for the five-year period 1909-1914. Shawnee and Tulsa also show increases for 1914 as compared with 1909, 4.8 per cent, and 82.9 per cent, respectively. Chickasha, Enid, and McAlester each show decreases. While the number of female wage earners employed in the cities of Oklahoma is comparatively small, the number increased during the last five-year period in every city, except McAlester, and only two cities, McAlester and Tulsa, show a decrease in proportion of this class.

**Wage earners employed, by months.**—The following table gives, for all industries combined, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

The last three months of the year show the greatest activity in the combined industries of the state at each census period, October being the month of maximum employment. The month of minimum employment, on the other hand, varied considerably, being August in 1914, February in 1909, and May in 1904. The greatest variation in number employed during the

year occurred in 1909, when the smallest number for any month was 80.4 per cent of the largest. In 1914, though the number employed was greater, the minimum number represented 93.4 per cent of the maximum.

**Table 8**

## WAGE EARNERS IN MANUFACTURING INDUSTRIES.

MONTH.	Number. <sup>1</sup>			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
January.....	17,365	11,826	5,455	96.0	80.7	92.1
February.....	17,176	11,752	5,361	95.0	80.4	90.5
March.....	17,164	12,237	5,356	94.9	83.5	90.4
April.....	17,493	12,235	5,279	96.7	83.8	92.1
May.....	17,307	12,518	5,144	98.4	85.4	88.8
June.....	17,334	12,905	5,266	95.8	88.0	88.9
July.....	17,232	13,153	5,280	95.3	89.7	89.1
August.....	16,902	13,465	5,167	93.4	91.9	87.2
September.....	17,398	13,826	5,332	96.2	94.3	93.4
October.....	18,088	14,659	5,923	100.0	100.0	100.0
November.....	17,911	14,551	5,855	99.0	99.3	98.8
December.....	17,446	14,505	5,854	96.4	98.9	98.8

<sup>1</sup> The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

Table 9 gives the total average number of wage earners employed during 1914, together with the total number employed on the 15th of each month, or the nearest representative day, for the combined industries of the state, for a number of selected industries, and for the total industries of each of the nine cities having more than 10,000 inhabitants.

**Table 9**

WAGE EARNERS: 1914.  
[Month of maximum employment for each industry is indicated by **boldface** figures and that of minimum by *italic* figures.]

INDUSTRY AND CITY.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	17,443	17,365	17,176	17,164	17,493	17,807	17,334	17,232	<b>16,902</b>	17,398	<b>18,088</b>	17,911	17,446	93.4
Bread and other bakery products.....	697	660	<i>666</i>	661	671	695	698	724	<b>725</b>	717	717	716	724	90.5
Brick.....	402	301	362	415	519	488	<b>534</b>	457	484	389	339	330	<i>206</i>	38.6
Cars and general shop construction and repairs by steam-railroad companies.....	1,718	<b>1,590</b>	1,512	1,554	1,667	1,832	1,806	1,902	<b>2,005</b>	1,910	1,833	1,703	1,502	60.3
Flour-mill and gristmill products.....	700	681	661	<i>660</i>	666	<i>660</i>	657	726	753	<b>761</b>	729	728	738	85.4
Foundry and machine-shop products.....	886	859	870	953	989	960	984	941	912	856	777	<b>765</b>	776	76.3
Ice, manufactured.....	528	<i>242</i>	247	313	451	570	807	<b>907</b>	899	765	526	335	274	26.7
Lumber and timber products.....	2,651	2,753	2,811	2,820	2,805	<b>2,837</b>	2,780	2,644	2,539	2,524	2,585	2,402	<i>2,512</i>	81.5
Oil, cottonseed, and cake.....	851	1,441	1,081	624	195	193	<i>190</i>	250	285	891	1,667	1,677	<b>1,718</b>	11.1
Petroleum, refining.....	516	<b>601</b>	501	497	505	<i>495</i>	511	499	507	517	526	519	514	82.4
Printing and publishing.....	1,619	1,585	<i>1,563</i>	1,576	1,594	1,634	1,619	1,600	1,600	1,638	1,675	1,664	<b>1,680</b>	93.0
Smelting and refining, zinc.....	1,641	1,588	1,588	1,602	1,634	1,645	<i>1,675</i>	1,603	1,638	<b>1,770</b>	1,752	1,620	1,677	89.0
All other industries.....	5,234	5,264	5,324	5,499	5,797	<b>5,808</b>	5,173	4,979	<i>4,655</i>	4,660	4,962	5,462	5,325	78.4
Total for cities.....	6,153	<b>5,741</b>	5,742	5,860	6,012	6,237	6,290	6,280	6,251	6,487	<b>6,578</b>	6,291	6,067	87.3
CHICKASHA.....	337	<i>243</i>	271	262	282	336	348	370	381	374	<b>406</b>	396	375	59.9
ENID.....	283	252	<i>238</i>	260	267	266	278	307	295	292	<b>315</b>	315	311	75.6
GUTHRIE.....	185	192	195	177	<i>162</i>	165	171	182	188	186	206	191	205	78.6
MCALISTER.....	171	<b>190</b>	161	<i>160</i>	175	174	158	178	173	177	166	167	183	78.9
MUSKOGEE.....	828	887	737	704	821	858	823	876	<b>895</b>	892	860	780	743	82.3
OKLAHOMA CITY.....	2,226	<b>2,144</b>	<i>2,155</i>	2,168	2,141	2,168	2,239	2,226	2,138	2,276	<b>2,410</b>	2,373	2,294	88.6
SAPULPA.....	433	437	421	446	431	476	<b>488</b>	419	406	439	445	<b>590</b>	398	79.9
SHAWNEE.....	845	<i>560</i>	772	756	794	859	896	920	<b>991</b>	973	958	891	770	50.5
TULSA.....	845	836	812	877	<b>939</b>	935	889	802	<i>784</i>	878	812	788	788	83.5

The total for the combined industries of the state shows very little fluctuation from month to month in the number of wage earners employed, the proportion which the minimum formed of the maximum being 93.4 per cent. With the exception of the three seasonal industries, the manufacture of brick, ice, and cottonseed oil

and cake, which naturally show considerable differences in the number employed during the different seasons, there was a marked regularity in the number engaged in the industries shown. Of the remaining industries the least variation is reported for printing and publishing, and the greatest for steam-railroad repair shops.

Of the nine cities, Oklahoma City reported the largest number of wage earners and shows the least fluctuation in employment, 11.4 per cent. Chickasha and Shawnee show the greatest variation, 40.1 per cent and 43.5 per cent, respectively. In these two cities steam-railroad repair shops, the principal industry, reported relatively few wage earners for the month of January.

**Prevailing hours of labor.**—In Table 10 the average number of wage earners reported for 1914 and 1909,

for all industries combined and for selected industries, throughout the state have been classified according to number of hours of labor per week prevailing in the establishments in which they were employed. A similar classification is given for 1914 only for all industries combined in each city having more than 10,000 inhabitants. The number employed in each establishment is classified as a total, even though a few employees worked a greater or a smaller number of hours.

Table 10

INDUSTRY AND CITY.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.								
		Total.	In establishments where the prevailing hours of labor per week were—							
			48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries.....	1914	17,443	4,369	2,247	2,277	687	3,996	1,719	1,332	816
	1909	13,143	2,965	303	1,949	526	4,711	1,463	858	368
Bread and other bakery products.....	1914	697	83	5	283	22	220	58	8	18
	1909	418	58	4	52	14	236	15	34	5
Brick.....	1914	402	.....	.....	49	.....	353	.....	.....	.....
	1909	730	15	.....	46	.....	669	.....	.....	.....
Cars and general shop construction and repairs by steam-railroad companies.	1914	1,718	748	.....	314	14	.....	642	.....	.....
	1909	1,412	195	.....	896	.....	31	290	.....	.....
Flour-mill and gristmill products.....	1914	700	27	3	30	.....	252	165	223	.....
	1909	842	98	10	11	4	280	168	271	.....
Foundry and machine-shop products.....	1914	886	72	.....	239	35	539	.....	2	.....
	1909	457	18	1	90	1	343	4	.....	.....
Ice, manufactured.....	1914	528	7	.....	10	16	41	134	46	274
	1909	449	5	.....	.....	9	40	124	24	247
Lumber and timber products.....	1914	2,651	126	17	388	210	1,494	406	.....	10
	1909	3,175	800	180	155	156	1,631	253	.....	.....
Oil, cottonseed, and cake.....	1914	851	.....	.....	2	.....	8	.....	813	28
	1909	581	.....	.....	.....	.....	15	14	488	64
Petroleum, refining.....	1914	516	1	.....	76	14	64	168	.....	163
	1909	75	11	.....	12	.....	.....	34	1	17
Printing and publishing.....	1914	1,619	1,176	50	295	22	68	2	6	.....
	1909	1,698	1,122	58	323	32	163	.....	.....	.....
Smelting and refining, zinc.....	1914	1,641	.....	1,359	.....	282	.....	.....	.....	.....
	1909	566	.....	.....	.....	196	185	155	.....	.....
All other industries.....	1914	5,234	2,129	813	591	72	958	144	234	293
	1909	2,740	643	50	364	114	1,118	876	40	35
Total for cities.....	1914	6,153	2,117	798	1,056	100	943	641	269	229
CHICKASHA.....	1914	337	225	.....	2	.....	41	9	59	1
ENID.....	1914	283	35	16	39	28	106	19	40	.....
GUTHRIE.....	1914	185	96	8	12	.....	9	7	53	.....
MCALISTER.....	1914	171	56	.....	25	9	16	28	.....	37
MUSKOGEE.....	1914	828	157	6	370	12	63	175	29	16
OKLAHOMA CITY.....	1914	2,226	600	603	521	34	256	83	61	68
SAPULPA.....	1914	433	46	74	6	.....	29	251	.....	27
SHAWNEE.....	1914	845	725	5	18	8	9	40	25	15
TULSA.....	1914	845	177	86	63	9	414	29	2	65

In 1909, 5,743, or 43.7 per cent of the total average number of wage earners for all industries combined, were employed in establishments where the prevailing hours of labor were less than 60 per week, while in 1914 the proportion was 54.9 per cent. During the five-year period the proportion of wage earners in plants where 60 hours constituted a week's work showed the greatest decrease—from 35.8 per cent in 1909 to 22.9 per cent in 1914—while that in plants where the prevailing hours were between 48 and 54 showed the greatest increase—from 2.3 per cent in 1909 to 12.9 per cent in 1914.

Among the separate industries, smelting and refining, zinc, shows the most pronounced decrease in hours of labor. In 1909, only slightly more than one-third

of the wage earners in this industry were employed in establishments where the hours of labor were less than 60 per week, in 1914 none worked as many as 60 hours, and 82.8 per cent were employed less than 54 hours per week.

In 1914, 56.4 per cent of the wage earners in the bakeries of the state were employed in establishments operated less than 60 hours per week, as compared with 30.6 per cent in 1909. The railroad repair shops in Oklahoma show an increase in the proportion of wage earners working more than 60 hours per week, 37.4 per cent in 1914 as compared with 20.5 per cent in 1909.

Of the combined total average number of wage earners, 6,153, for the nine cities in 1914, 4,071, or



## MANUFACTURES—OKLAHOMA.

66.2 per cent, were in establishments where the prevailing hours were less than 60 per week, and 2,117, or 34.4 per cent, were in establishments where 48 hours or less constituted a week's work.

In Oklahoma City and Shawnee the proportion of wage earners in establishments in which the prevailing hours were less than 60 per week was 79 per cent and 89.5 per cent, respectively. The largest proportion

in the 60-hour group—49 per cent—is shown for Tulsa; and the largest in establishments with prevailing hours over 60 per week appears for Sapulpa—64.2 per cent.

**Location of establishments.**—Table 11 shows, for 1914, 1909, and 1899, the extent to which the manufactures in Oklahoma were centralized in the cities having more than 10,000 inhabitants.

Table 11	Census year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 OR OVER.						DISTRICTS OUTSIDE OF CITIES HAVING A POPULATION OF 10,000 OR OVER.	
			Total.		10,000 to 25,000.		25,000 to 100,000.		Number or amount.	Per cent of aggregate.
			Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.		
Number of places.....	1914 1910 1900	----- ----- -----	9 8 2	----- ----- -----	6 6 2	----- ----- -----	3 2	----- ----- -----	----- ----- -----	----- ----- -----
Population <sup>1</sup> .....	1914 1910 1900	2, 026, 534 1, 657, 155 790, 391	237, 094 168, 866 20, 043	11. 7 10. 2 2. 5	88, 452 79, 383 20, 043	4. 4 4. 8 2. 5	148, 642 89, 483	7. 3 5. 4	1, 789, 440 1, 488, 289 770, 348	88. 3 89. 8 97. 5
Number of establishments.....	1914 1909 1899	2, 518 2, 310 495	591 486 69	23. 5 21. 0 13. 9	213 251 69	8. 5 10. 9 13. 9	378 235	15. 0 10. 2	1, 927 1, 824 426	76. 5 79. 0 86. 1
Average number of wage earners.....	1914 1909 1899	17, 443 13, 143 2, 381	6, 153 4, 176 461	35. 3 31. 8 19. 4	2, 254 2, 397 461	12. 9 18. 2 19. 4	3, 899 1, 779	22. 4 13. 5	11, 290 8, 967 1, 920	64. 7 68. 2 80. 6
Value of products.....	1914 1909 1899	\$102, 005, 693 53, 682, 405 8, 133, 936	\$36, 308, 575 19, 864, 676 1, 493, 998	35. 6 37. 0 18. 4	\$8, 959, 627 9, 717, 641 1, 493, 998	8. 8 18. 1 18. 4	\$27, 348, 948 10, 147, 035	26. 8 18. 9	\$65, 697, 118 33, 817, 729 6, 639, 938	64. 4 63. 0 81. 6
Value added by manufacture.....	1914 1909 1899	31, 035, 943 19, 529, 511 2, 703, 489	10, 106, 225 6, 966, 763 639, 860	32. 6 35. 7 23. 7	2, 731, 838 3, 443, 467 639, 860	8. 8 17. 6 23. 7	7, 374, 387 3, 523, 296	23. 8 18. 0	20, 929, 718 12, 562, 748 2, 063, 629	67. 4 64. 3 76. 3

<sup>1</sup> Census estimate of population for 1914.

<sup>2</sup> Figures do not agree with those published in 1909 because certain establishments revised their reports for that census.

In any comparison of the figures in this table it should be borne in mind that while the distinction is made between cities of 10,000 inhabitants and over and the balance of the state, it is not necessarily between the same cities at each census and the balance of the state. In 1900 only two cities, Guthrie and Oklahoma City, reported a population of 10,000 and over, while Chickasha, Enid, McAlester, Muskogee, Sapulpa, Shawnee, and Tulsa, each having less than 10,000 inhabitants, were included in the districts outside. Similarly, the same cities may not be shown in the same group at each census. Tulsa, which in 1910 was in the group reporting a population of from 10,000 to 25,000, had advanced to the group having an estimated population of from 25,000 to 100,000 in 1914.

The table shows that for 1914 the nine cities which contained 11.7 per cent of the estimated population of the state, reported 23.5 per cent of the total number of establishments; 35.3 per cent of the total average number of wage earners; 35.6 per cent of the total value of products; and 32.6 per cent of the total value added by manufacture. A comparison of the totals for the cities in 1914 with those for 1909 and 1899 shows increases at each successive census for each item, a condition similar to that which prevailed in the districts outside the cities.

The relative importance in manufactures of each of the nine cities having more than 10,000 inhabitants, as measured by average number of wage earners and by

value of products, in 1914, 1909, and 1904, is shown in Table 12. The cities are listed in the order of their importance as shown by value of products. Those for which comparative figures are not shown for 1909 and 1904 had less than 10,000 inhabitants in those years.

Table 12 CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1914	1909	1904	1914	1909	1904
Oklahoma City.....	2,226	1,398	720	\$20,725,811	\$7,867,884	\$3,070,730
Tulsa.....	845	462		3,808,326	1,562,042	
Muskogee.....	828	381		2,754,811	2,279,151	
Enid.....	283	303		2,010,533	2,453,188	
Shawnee <sup>1</sup> .....	845	806		2,597,965	1,940,823	
Chickasha.....	337	364		1,719,676	1,866,959	
Guthrie.....	185	282	333	853,485	1,442,795	1,200,662
Sapulpa.....	433			604,457		
McAlester.....	171	180		573,511	451,234	

<sup>1</sup> Figures do not agree with those published in 1909 because certain establishments revised their reports for that census.

Oklahoma City, the largest city in the state, reported \$20,725,811 as the value of the products of its manufacturing industries in 1914. This amount represented 20.3 per cent of the total for the state and 57.1 per cent of the total for the nine cities. The principal industries were printing and publishing, slaughtering and meat packing, and the manufacturing of flour-mill and gristmill products. In Tulsa, the manufacture of foundry and machine-shop products was the chief industry. Petroleum refining and the manufacture of flour-mill and gristmill and planing mill products were also important industries.

In Muskogee steam-railroad repair shops, flour mills and gristmills, and the refining of petroleum were the principal industries; in Enid, poultry killing and dressing and flour mills and gristmills; in Shawnee, flour mills and gristmills and steam-railroad repair shops; in Chickasha, flour mills and gristmills, cottonseed-oil mills, and steam-railroad repair shops; in Guthrie, flour mills and gristmills, cottonseed-oil mills, and the printing and publishing of newspapers and periodicals; in Sapulpa, steam-railroad repair shops; and in McAlester, cottonseed-oil mills.

**Character of ownership.**—Table 13 presents statistics concerning character of ownership, or legal organization, of manufacturing enterprises. For all industries combined, comparative figures are given for 1914, 1909, and 1904; for selected industries, statistics for 1914 and 1909 are shown; and for individual cities, the figures are for all industries combined and relate only to 1914.

In order to avoid disclosing the operations of individual establishments, it is necessary to omit several important industries from this table.

INDUSTRY AND CITY.	Cen- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
					Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Corpora- tions.	All others.	Indi- vid- uals.	Corpora- tions.	All oth- ers.				
All industries.....	1914 1909 1904	1,533 1,257 635	549 501 242	436 552 246	17,443 13,143 5,456	3,008 3,113 1,389	13,037 8,225 3,366	1,398 1,805 701	17.2 23.7 25.5	74.7 62.6 61.7	8.0 13.7 12.8	\$102,005,693 53,682,405 24,459,107	\$8,048,451 7,699,080 4,173,454	\$88,689,116 39,390,339 17,401,144	\$5,268,126 6,592,986 2,884,509	7.9 14.3 17.1	86.9 73.4 71.1	5.2 12.3 11.8				
Cars and general shop construction and repairs by steam-railroad companies.	1914 1909	..... .....	113 8	..... .....	1,718 1,412	..... .....	1,718 1,412	..... .....	100.0 100.0	..... .....	..... .....	2,270,374 1,701,851	..... .....	12,270,374 1,701,851	..... .....	..... .....	100.0 100.0	..... .....	..... .....			
Flour-mill and gristmill products.	1914 1909	117 106	66 97	70 92	700 842	97 105	508 590	95 147	13.9 12.5	72.6 70.1	13.6 17.5	16,688,690 19,144,475	1,086,923 1,387,666	14,022,694 15,244,212	1,579,073 2,512,597	6.5 7.2	84.0 79.6	9.5 13.1				
Foundry and machine-shop products.	1914 1909	60 25	36 22	26 17	886 457	251 125	525 240	110 92	28.3 27.4	59.3 52.5	12.4 20.1	3,173,342 1,371,463	873,033 318,170	2,042,397 686,828	257,912 366,465	27.5 23.2	64.4 50.1	8.1 26.7				
Ice, manufactured.....	1914 1909	10 6	69 62	18 9	528 449	25 21	435 398	68 30	4.7 4.7	82.4 88.6	12.9 6.7	1,604,146 1,272,515	76,958 44,484	1,336,356 1,155,376	190,832 72,655	4.8 3.5	83.3 91.9	8.9 5.7				
Lumber and timber products.	1914 1909	211 198	32 41	41 103	2,651 3,175	1,034 1,094	1,295 1,371	322 710	39.0 34.5	48.8 43.2	12.1 22.4	4,113,522 4,438,563	968,830 1,170,314	2,398,690 2,336,840	746,002 931,409	23.6 26.4	58.3 52.6	18.1 21.0				
Petroleum, refining.....	1914 1909	..... .....	23 29	..... .....	516 75	..... .....	516 275	..... .....	100.0 100.0	..... .....	..... .....	13,014,372 1,055,011	..... .....	13,014,372 2,055,011	..... .....	..... .....	100.0 100.0	..... .....	..... .....			
Printing and publishing..	1914 1909	443 397	97 87	84 114	1,619 1,698	609 647	859 780	151 271	37.6 38.1	53.1 45.9	9.3 16.0	4,023,851 3,988,542	1,277,341 1,233,929	2,346,202 2,197,781	400,308 556,832	31.7 30.9	58.3 55.1	9.9 14.0				
Smelting and refining, zinc.	1914 1909	..... .....	6 3	..... .....	1,641 566	..... .....	1,641 566	..... .....	100.0 100.0	..... .....	..... .....	9,938,743 3,002,233	..... .....	9,938,743 3,002,233	..... .....	..... .....	100.0 100.0	..... .....	..... .....			
Total for cities.....	1914	281	201	109	6,153	746	5,003	404	12.1	81.3	6.6	36,308,575	2,366,804	32,386,701	1,555,070	6.5	89.2	4.3				
CHICKASHA.....	1914	15	8	6	337	19	293	25	5.6	86.9	7.4	1,719,676	63,059	1,592,330	64,287	3.7	92.6	3.7				
ENID.....	1914	16	20	9	283	34	225	24	12.0	79.5	8.5	2,610,533	106,015	2,412,498	92,020	4.1	92.4	3.5				
GUTHRIE.....	1914	19	6	5	185	43	128	14	23.2	69.2	7.6	853,485	110,715	705,639	37,131	13.0	82.7	4.4				
MCALISTER.....	1914	16	11	6	171	26	120	25	15.2	70.2	14.6	573,511	72,657	410,347	90,507	12.7	71.5	15.8				
MUSKOGEE.....	1914	34	33	13	828	92	694	42	11.1	83.8	5.1	2,754,811	227,467	2,345,000	182,344	8.3	85.1	6.6				
OKLAHOMA CITY.....	1914	86	76	33	2,226	202	1,861	163	9.1	83.6	7.3	20,725,811	730,011	19,462,231	533,569	3.5	93.9	2.6				
SAPULPA.....	1914	16	7	7	433	45	369	19	10.4	85.2	4.4	604,457	102,387	416,467	85,603	16.9	68.9	14.2				
SHAWNEE.....	1914	27	11	8	845	82	750	13	9.7	88.8	1.5	2,597,965	182,719	2,334,728	80,518	7.0	89.9	3.1				
TULSA.....	1914	52	29	22	845	203	593	79	24.0	66.6	9.3	3,868,326	771,774	2,707,461	389,091	20.0	70.0	10.0				

<sup>1</sup> Includes the group "individuals," to avoid disclosure of individual operations. <sup>2</sup> Includes the group "all others," to avoid disclosure of individual operations.

For all industries combined, this table shows an increase in the number of establishments at each of the two five-year periods for both individual and corporate forms of ownership. "All others," which includes firms and cooperative organizations, shows a decrease during the later five-year period. In 1914 corporations, with but 21.8 per cent of the total number of establishments in the state, reported 74.7 per cent of the average number of wage earners and 86.9 per cent of the total value of products. In 1909 and 1904, although the number of establishments under corporate ownership formed practically the same proportions of the total—21.7 per cent and 21.5 per cent, respectively—the corresponding proportions of the total value of products were considerably less—73.4 in 1909 and 71.1 in 1904.

In both 1914 and 1909 the largest proportion of the total value of products for each of the eight industries for which separate statistics are given is shown for establishments under corporate ownership. This condition prevailed also in each of the nine cities shown for 1914. For establishments in the cities taken as a group, 34 per cent are under corporate ownership, a greater percentage than for the state as a whole. In Oklahoma City only 6.1 per cent of the value of products was reported by establishments not incorporated.

**Size of establishments.**—The tendency for manufacturing to become concentrated in large establishments is indicated by the statistics given in Table 14.

In 1914, 152 establishments, or 6.1 per cent of the total number in the state, each reported products exceeding \$100,000 in value, as compared with 106, or

## MANUFACTURES—OKLAHOMA.

4.6 per cent of the total, in 1909, and 60, or 5.3 per cent, in 1904. In 1914 these establishments reported 58.4 per cent of the total average number of wage earners for the state, 79.5 per cent of the total value of products, and 66.1 per cent of the total value added by manufacture. In the same year the small establishments—those having products less than \$5,000 in value—although representing 55.7 per cent of the total number of establishments, reported only 3.1 per cent

of the total value of products and 6.5 per cent of the value added by manufacture. For the establishments having products valued at \$100,000 and over, large actual increases in the value of products are shown from census to census, but the proportions which they formed of the total showed a slight decrease during the earlier five-year period and a marked increase during the later—from 58 per cent in 1904 to 57.3 per cent in 1909 and 79.5 per cent in 1914.

Table 14

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904
All classes.....	2,518	2,310	1,123	17,443	13,143	5,456	\$102,005,693	\$53,682,405	\$24,459,107	\$31,035,943	\$19,529,511	\$8,065,155
Less than \$5,000.....	1,403	1,182	612	1,618	1,668	760	3,168,934	2,675,597	1,430,320	2,012,505	1,792,560	999,888
\$5,000 to \$20,000.....	707	727	326	2,576	2,863	1,382	6,824,096	7,194,668	3,124,083	3,753,033	4,142,194	1,847,463
\$20,000 to \$100,000.....	256	295	125	3,065	3,908	1,460	10,885,671	13,067,308	5,720,060	4,718,805	5,877,805	2,188,556
\$100,000 to \$1,000,000.....	138	102	60	7,233	4,406	1,854	37,734,338	25,870,562	14,184,034	11,361,582	7,001,117	3,029,278
\$1,000,000 and over.....	14	4	.....	2,951	298	.....	43,342,654	4,884,270	.....	9,150,928	715,775	.....
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	55.7	51.2	54.5	9.3	12.7	13.9	3.1	5.0	5.8	6.5	9.2	12.4
\$5,000 to \$20,000.....	28.1	31.5	29.0	14.8	21.8	25.3	6.7	13.4	12.8	12.2	21.2	22.9
\$20,000 to \$100,000.....	10.2	12.8	11.1	17.6	29.7	26.8	10.7	24.3	23.4	15.2	30.1	27.1
\$100,000 to \$1,000,000.....	5.5	4.4	5.3	41.5	33.5	34.0	37.0	48.2	58.0	36.6	35.8	37.6
\$1,000,000 and over.....	0.6	0.2	.....	16.9	2.3	.....	42.5	9.1	.....	29.5	3.7	.....

Table 15 gives, for 1914 and 1909, for seven of the more important industries, a classification of establishments, wage earners, value of products, and value

added by manufacture, similar to that presented in Table 14 for all industries combined.

Table 15

INDUSTRY AND VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1914	1909	Per cent distribution.	1914	1909	Per cent distribution.	1914	1909	Per cent distribution.	1914	1909	Per cent distribution.
FLOUR-MILL AND GRISTMILL PRODUCTS.....	253	295	100.0	700	842	100.0	\$16,688,690	\$19,144,475	100.0	\$2,221,724	\$2,651,580	100.0
Less than \$5,000.....	101	82	39.9	24	55	4.9	264,261	240,320	1.6	65,496	52,056	2.8
\$5,000 to \$20,000.....	72	108	28.5	79	121	11.3	782,774	1,147,394	4.7	163,306	231,804	7.0
\$20,000 to \$100,000.....	48	63	19.0	120	169	17.1	1,940,908	3,000,735	11.6	322,945	491,723	13.9
\$100,000 to \$1,000,000.....	29	39	11.5	367	394	52.4	9,904,516	11,042,152	59.3	1,321,452	1,403,929	56.9
\$1,000,000 and over.....	3	3	1.2	100	103	14.3	3,796,231	3,713,874	22.7	448,585	472,068	19.3
FOUNDRY AND MACHINE-SHOP PRODUCTS.....	122	64	100.0	886	457	100.0	3,173,342	1,371,463	100.0	1,499,416	784,784	100.0
Less than \$5,000.....	48	21	39.3	66	33	7.4	122,725	58,638	3.9	91,225	38,401	6.1
\$5,000 to \$20,000.....	40	27	32.8	199	121	22.5	388,734	319,347	12.2	261,064	211,194	17.4
\$20,000 to \$100,000.....	25	13	20.5	256	139	28.9	967,795	513,010	30.5	469,669	317,771	31.3
\$100,000 to \$1,000,000.....	9	3	7.4	365	164	41.2	1,694,088	480,468	53.4	677,458	217,418	45.2
ICE, MANUFACTURED.....	97	77	100.0	528	449	100.0	1,604,146	1,272,515	100.0	1,202,018	965,459	100.0
Less than \$5,000.....	20	13	20.6	17	19	3.2	44,566	38,766	2.8	29,866	24,032	2.5
\$5,000 to \$20,000.....	55	45	56.7	220	191	41.7	643,636	513,581	40.1	474,750	399,064	39.5
\$20,000 to \$100,000.....	22	19	22.7	291	239	55.1	915,944	720,168	57.1	697,402	542,363	58.0
LUMBER AND TIMBER PRODUCTS.....	284	342	100.0	2,651	3,175	100.0	4,113,522	4,438,563	100.0	2,428,260	2,951,317	100.0
Less than \$5,000.....	191	200	67.3	665	664	25.1	429,734	448,807	10.4	344,762	372,516	14.2
\$5,000 to \$20,000.....	65	92	22.9	497	744	18.7	617,804	894,724	15.0	391,607	676,469	16.1
\$20,000 to \$100,000.....	20	42	7.0	368	995	13.9	733,685	1,662,859	17.8	411,397	1,104,353	16.9
\$100,000 to \$1,000,000.....	8	8	2.8	1,121	772	42.3	2,332,299	1,432,173	56.7	1,280,494	797,974	52.7
OIL, COTTONSEED, AND CAKE.....	60	39	100.0	851	581	100.0	7,589,813	5,186,605	100.0	1,306,410	941,106	100.0
\$5,000 to \$20,000.....	7	.....	11.7	20	.....	2.4	80,153	.....	1.1	22,531	.....	1.7
\$20,000 to \$100,000.....	18	17	30.0	168	166	19.7	1,047,990	1,120,181	13.8	177,795	217,379	13.7
\$100,000 to \$1,000,000.....	35	22	58.3	663	415	77.9	6,461,670	4,066,424	85.1	1,106,084	723,727	84.7
PETROLEUM, REFINING.....	23	9	100.0	516	75	100.0	13,014,372	1,055,011	100.0	3,423,635	479,538	100.0
\$20,000 to \$100,000.....	6	5	26.1	29	26	5.6	305,091	159,561	2.3	79,428	52,442	2.3
\$100,000 to \$1,000,000.....	12	4	52.2	270	49	52.3	5,166,311	895,450	39.7	1,468,562	427,096	42.9
\$1,000,000 and over.....	5	.....	21.7	217	.....	42.1	7,542,970	.....	58.0	1,875,645	.....	54.8
PRINTING AND PUBLISHING.....	624	598	100.0	1,619	1,608	100.0	4,023,851	3,988,542	100.0	3,100,410	2,984,419	100.0
Less than \$5,000.....	467	436	74.8	442	507	27.3	961,171	966,088	23.9	767,796	784,130	24.8
\$5,000 to \$20,000.....	130	133	20.8	491	595	30.3	1,088,591	1,198,006	27.0	850,913	943,119	27.4
\$20,000 to \$100,000.....	21	26	3.4	350	444	21.6	925,468	1,094,833	23.0	666,869	828,820	21.5
\$100,000 to \$1,000,000.....	6	3	1.0	336	152	20.8	1,048,621	729,615	26.1	814,832	428,350	26.3

<sup>1</sup> Includes the group "\$5,000 to \$20,000."

In 1914 more than 90 per cent of the value of products for the petroleum-refining, and more than 80 per cent of the flour-mill and gristmill, and cottonseed-oil industries was reported by establishments each of which had products valued at \$100,000 or more. The wage earners employed in these establishments represented 94.4 per cent, 66.7 per cent, and 77.9 per cent, respectively, of the total number reported by each industry.

The petroleum-refining industry, which reported no establishment in 1909 with a product of over \$1,000,000 in value, in 1914 shows five such establishments with a combined product of \$7,542,970.

Lumber and timber products, reporting 8 establishments with products in the group "\$100,000 to \$1,000,000" in both 1914 and 1909, shows a substantial increase in the average size of the establishments, not only in regard to value of products, but number of wage earners and value added by manufacture.

Table 16 presents, for 1914, for all industries combined, in each of the nine cities having more than 10,000 inhabitants, statistics similar to those given in Table 14 for the state as a whole.

In the cities the same general condition prevails as that found throughout the state for all industries combined, namely, a preponderance as to number of wage earners, value of products, and value added by manufacture, for establishments having products valued at \$100,000 and over. The highest percentage of total value of products reported by establishments in this class, 87.3, appears for Oklahoma City, the principal manufacturing city of the state, while Shawnee, fifth among the manufacturing cities and with 86.1 per cent of its products in this class, reports the highest percentages for average number of wage earners and value added by manufacture—84.5 and 75.8, respectively.

CITY AND VALUE OF PRODUCT.		Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		CITY AND VALUE OF PRODUCT.		Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
			Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.				Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
CHICKASHA.....		29	337	100.0	\$1,719,676	100.0	\$443,038	100.0	OKLAHOMA CITY....		195	2,226	100.0	\$20,725,811	100.0	\$4,494,022	100.0
Less than \$5,000.....		11	6	1.8	23,529	1.4	13,145	3.0	Less than \$5,000.....		67	45	2.0	155,102	0.7	109,061	2.4
\$5,000 to \$20,000.....		11	41	12.2	120,942	7.0	50,582	11.4	\$5,000 to \$20,000.....		61	222	10.0	617,133	3.0	411,236	9.2
\$20,000 to \$100,000.....		4	41	12.2	164,396	9.6	86,367	19.5	\$20,000 to \$100,000.....		44	554	24.9	1,867,057	9.0	877,344	19.5
\$100,000 to \$1,000,000.....		3	249	73.9	1,410,809	82.0	292,944	66.1	\$100,000 and over.....		23	1,405	63.1	18,086,519	87.3	3,096,381	68.9
ENID.....		45	283	100.0	2,610,533	100.0	562,081	100.0	SAPULPA.....		30	433	100.0	604,457	100.0	369,884	100.0
Less than \$5,000.....		14	10	3.5	28,033	1.1	17,708	3.2	Less than \$5,000.....		12	18	4.2	32,701	5.4	24,202	6.5
\$5,000 to \$20,000.....		20	92	32.5	217,886	8.3	126,754	22.6	\$5,000 to \$20,000.....		12	51	11.8	144,890	24.0	79,859	21.6
\$20,000 to \$100,000.....		7	42	14.8	224,184	8.6	113,814	20.2	\$20,000 to \$100,000.....		6	364	84.1	426,866	70.6	265,823	71.9
\$100,000 to \$1,000,000.....		4	139	49.1	2,140,430	82.0	308,805	54.1	SHAWNEE.....		46	845	100.0	2,597,965	100.0	790,423	100.0
GUTHRIE.....		30	185	100.0	853,485	100.0	290,501	100.0	Less than \$5,000.....		17	13	1.5	37,173	1.4	20,727	2.6
Less than \$5,000.....		12	15	8.1	32,427	3.8	16,525	5.7	\$5,000 to \$20,000.....		22	74	8.8	237,257	9.1	98,096	12.4
\$5,000 to \$20,000.....		15	86	46.5	206,774	24.2	122,390	42.1	\$20,000 to \$100,000.....		3	44	5.2	87,136	3.4	72,347	9.2
\$20,000 to \$100,000.....		3	84	45.4	614,284	72.0	151,586	52.2	\$100,000 to \$1,000,000.....		4	714	84.5	2,236,399	86.1	599,253	75.8
MCALISTER.....		33	171	100.0	573,511	100.0	275,911	100.0	TULSA.....		103	845	100.0	3,868,326	100.0	1,698,746	100.0
Less than \$5,000.....		17	20	11.7	48,477	8.5	27,659	10.0	Less than \$5,000.....		31	29	3.4	65,045	1.7	44,202	2.6
\$5,000 to \$20,000.....		10	42	24.6	109,445	19.1	60,460	21.9	\$5,000 to \$20,000.....		37	148	17.5	420,615	10.9	240,263	14.1
\$20,000 to \$100,000.....		6	109	63.7	415,589	72.5	187,792	68.1	\$20,000 to \$100,000.....		22	162	19.2	839,383	21.7	373,830	22.0
MUSKOGEE.....		80	828	100.0	2,754,811	100.0	1,181,619	100.0	\$100,000 to \$1,000,000.....		13	506	59.9	2,543,283	65.7	1,040,451	61.2
Less than \$5,000.....		30	37	4.5	65,364	2.4	40,812	3.4									
\$5,000 to \$20,000.....		30	114	13.8	301,965	11.0	190,580	16.1									
\$20,000 to \$100,000.....		13	122	14.7	536,928	19.5	280,749	23.8									
\$100,000 to \$1,000,000.....		7	555	67.0	1,850,554	67.2	669,478	56.7									

<sup>1</sup> Includes the group "\$20,000 to \$100,000."

<sup>2</sup> Includes the group "\$100,000 to \$1,000,000."

<sup>3</sup> Includes the group "\$1,000,000 and over."

Table 17 shows the size of establishments in 1914, as measured by the number of wage earners employed, for all industries combined, for 11 of the more important industries, and for each of the nine cities having more than 10,000 inhabitants. Table 18 presents, for 1914, percentages based on the figures in Table 17, and for 1909, similar percentages for all industries combined and for individual industries in the state as a whole.

Considering the total for all industries, there were 455 establishments in operation in 1914 in which no wage earners were employed. These were small establishments in which the work was done by the proprietors or firm members. In some cases they employed a few wage earners for short periods, but the number was so

small and the period so short that in computing the average number, as described in the "Explanation of terms," no wage earners could be shown for these establishments. The printing and publishing industry and bakeries reported 58 per cent of such establishments in the state.

The comparatively small establishments still predominate in the majority of the industries of the state. Of the 2,518 establishments reported for all industries, 1,594, or 63.3 per cent employed on the average from 1 to 5 wage earners during the year. While the small establishments predominate in number, they gave employment to only 2,988 wage earners, or 17.1 per cent of the total for all establishments. There were only 10 establishments in the state that

## MANUFACTURES—OKLAHOMA.

reported the employment of more than 250 wage earners each, but these establishments gave employment to 4,266, or 24.5 per cent of the total average number of wage earners reported for all establishments. These large establishments are shown for steam-

railroad repair shops, lumber and timber products, smelting and refining of zinc, and slaughtering and meat packing, the last being included in "all other industries."

Table 17

INDUSTRY AND CITY.	TOTAL.		ESTABLISHMENTS EMPLOYING—															
			No wage earners.		1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.	
			Establishments.	Wage earners (average number).	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.
All industries.....	2,518	17,443	455	1,594	2,988	346	3,811	77	2,340	21	1,524	15	2,514	6	2,006	4	2,260	
Bread and other bakery products.....	342	697	104	223	356	14	141	.....	.....	.....	.....	1	200	.....	.....	.....	.....	
Brick.....	23	402	.....	3	7	15	171	4	148	1	76	.....	.....	.....	.....	.....	.....	
Cars and general shop construction and repairs by steam-railroad companies.....	13	1,718	.....	1	2	2	33	2	80	3	188	3	553	1	312	1	550	
Flour-mill and gristmill products.....	253	700	62	164	252	21	246	6	202	.....	.....	.....	.....	.....	.....	.....	.....	
Foundry and machine-shop products.....	122	886	8	71	173	36	382	6	186	.....	.....	1	145	.....	.....	.....	.....	
Ice, manufactured.....	97	528	3	64	195	27	259	3	74	.....	.....	.....	.....	.....	.....	.....	.....	
Lumber and timber products.....	284	2,651	12	169	420	89	896	7	204	2	113	3	417	2	601	.....	.....	
Oil, cottonseed, and cake.....	60	851	.....	13	46	33	472	14	333	.....	.....	.....	.....	.....	.....	.....	.....	
Petroleum, refining.....	23	516	.....	5	14	9	122	7	270	2	110	.....	.....	.....	.....	.....	.....	
Printing and publishing.....	624	1,619	160	418	761	33	350	12	347	.....	.....	1	161	.....	.....	.....	.....	
Smelting and refining, zinc.....	6	1,641	.....	.....	.....	.....	.....	1	34	.....	.....	2	403	2	676	1	528	
All other industries.....	671	5,234	106	463	762	67	739	15	462	13	1,037	4	635	1	417	2	1,182	
Total for cities.....	591	6,153	79	341	794	120	1,364	36	1,064	5	343	7	1,162	1	312	2	1,114	
CHICKASHA.....	29	337	5	15	28	6	60	2	50	.....	.....	1	199	.....	.....	.....	.....	
ENID.....	45	283	4	29	74	10	93	1	39	1	77	.....	.....	.....	.....	.....	.....	
GUTHRIE.....	30	185	4	17	34	6	60	3	91	.....	.....	.....	.....	.....	.....	.....	.....	
MCALISTER.....	33	171	2	23	46	7	100	1	25	.....	.....	.....	.....	.....	.....	.....	.....	
MUSKOGEE.....	80	828	9	53	147	11	112	5	149	.....	.....	1	108	1	312	.....	.....	
OKLAHOMA CITY.....	195	2,226	36	91	187	49	589	14	415	2	110	2	361	.....	.....	1	564	
SAPULPA.....	30	433	4	19	43	4	43	1	27	1	74	1	246	.....	.....	.....	.....	
SHAWNEE.....	46	845	8	30	74	3	33	3	84	.....	.....	1	104	.....	.....	1	550	
TULSA.....	103	845	7	64	161	24	274	6	184	1	82	1	144	.....	.....	.....	.....	

Among the cities, those showing large percentages of the total number of their wage earners reported by establishments employing more than 100 wage

earners each, are Chickasha, 59.1; Muskogee, 50.7; Sapulpa, 56.8; and Shawnee, 77.4. Oklahoma City reported 41.5 per cent of its wage earners in this class.

Table 18

INDUSTRY AND CITY.	Census year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.								INDUSTRY AND CITY.	Census year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.							
		1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000			1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000
All industries.....	1914 1909	17.1 25.2	21.8 28.3	13.4 16.3	8.7 10.1	14.4 12.4	11.5 1.9	13.0 5.7		Petroleum, refining.....	1914 1909	2.7 10.7	23.6 89.3	52.3	21.3				
Bread and other bakery products.....	1914 1909	51.1 70.8	20.2 29.2			28.7				Printing and publishing.....	1914 1909	47.0 50.8	21.6 25.4	21.4 16.5		9.9			
Brick.....	1914 1909	1.7 5.1	42.5 21.0	36.8 39.4	18.9 34.5					Smelting and refining, zinc.....	1914 1909			2.1		24.6 100.0	41.2	32.2	
Cars and general shop construction and repairs by steam-railroad companies.....	1914 1909	0.1 —	1.9 0.8	4.6 5.7	10.9 5.7	32.2 34.3	18.2 53.4			All other industries.....	1914 1909	14.6 31.3	14.1 25.5	8.8 25.2	19.8 5.7	12.1 12.2	8.0	22.6	
Flour-mill and gristmill products.....	1914 1909	36.0 44.6	35.1 39.3	28.9 9.8		6.2				Total for cities.....	1914	12.9	22.2	17.3	5.6	18.9	5.1	18.1	
Foundry and machine-shop products.....	1914 1909	19.5 21.7	43.1 42.4	21.0 9.4		16.4 28.5				CHICKASHA.....	1914	8.3	17.8	14.8		59.1			
Ice, manufactured.....	1914 1909	36.9 38.5	49.0 55.7	14.0 5.8						ENID.....	1914	26.1	32.9	13.8	27.2				
Lumber and timber products.....	1914 1909	15.8 18.6	33.8 34.6	7.7 13.9	4.3 17.1	15.7 7.9	22.7 8.0			GUTHRIE.....	1914	18.4	32.4	49.2					
Oil, cottonseed, and cake.....	1914 1909	5.4 2.8	55.5 62.5	39.1 34.8						MCALISTER.....	1914	26.9	58.5	14.6					
										MUSKOGEE.....	1914	17.8	13.5	18.0		13.0	37.7		
										OKLAHOMA CITY.....	1914	8.4	26.5	18.6	4.9	16.2		25.3	
										SAPULPA.....	1914	9.9	9.9	6.2	17.1	56.8			
										SHAWNEE.....	1914	8.8	3.9	9.9		12.3		65.1	
										TULSA.....	1914	19.1	32.4	21.8	9.7	17.0			

Engines and power.—Table 19 shows, for 1914, 1909, and 1904, for all industries combined, the number and horsepower of engines or motors employed in generating power (including electric motors

operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated by the establishments reporting.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
				Amount.			Per cent distribution.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904
Primary power, total.....	3,254	2,265	590	97,308	71,139	29,608	100.0	100.0	100.0
Owned.....	1,538	1,407	590	87,035	65,791	28,851	89.4	92.5	97.4
Steam engines and turbines <sup>1</sup> .....	842	862	371	70,803	56,643	27,753	72.8	79.6	93.7
Internal-combustion engines.....	685	539	214	15,976	8,676	989	16.4	12.2	3.3
Water wheels, turbines, and motors.....	11	6	5	256	472	109	0.3	0.7	0.4
Rented.....	1,716	858	( <sup>2</sup> )	10,273	5,348	757	10.6	7.5	2.6
Electric.....	1,716	858	( <sup>2</sup> )	10,068	5,281	597	10.3	7.4	2.0
Other.....				205	67	160	0.2	0.1	0.5
Electric.....	2,324	985	43	23,780	7,887	910	100.0	100.0	100.0
Rented.....	1,716	858	( <sup>2</sup> )	10,068	5,281	597	42.4	67.0	65.6
Generated by establishments reporting.....	608	127	43	13,692	2,606	313	57.6	33.0	34.4

<sup>1</sup> Figures for horsepower include for 1904 the amounts reported under the head of "other" owned power.

<sup>2</sup> Not reported.

This table shows an increase from 1909 to 1914 in all forms of power, except that generated by water wheels, turbines, and motors. Of the total increase in primary power, amounting to 26,169 horsepower, or 36.8 per cent, during this period, 14,160 horsepower, or 54.1 per cent of it, was in power generated by steam engines. This kind of power, although showing a large increase from census to census, shows a decrease in the proportion it formed of the total primary power at each census. Internal-combustion engines, on the other hand, show not only large actual increases in the amount of power generated during each of the two five-year periods from 1904 to 1914, but give an increased proportion of the total primary power reported at each period. In the average capacity of the engines of this class, there is a marked increase since 1904, namely, from an average of, 5 horsepower in that year to 16 horsepower in 1909 and to 23 horsepower in 1914.

The use of rented power, almost wholly electric, has greatly increased since 1904, when 757 horsepower of this character, representing 2.6 per cent of the total primary power, was reported. In 1909 the amount of such power had increased to 5,348 horsepower, or 7.5 per cent of the total, and in 1914 to 10,273 horsepower, or 10.6 per cent of the total.

In 1909, 67 per cent of the electric power reported was rented, but in 1914, while there was an actual increase in the rented electric power reported, the proportion decreased to 42.4 per cent, that generated in the establishments representing 57.6 per cent.

Fuel.—Closely related to the subject of power

employed in manufactures is that of the fuel consumed in generating this power or otherwise used in the manufacturing processes.

Table 20 shows, for 1914, the quantity of each kind of fuel used, for which data were obtained, for all industries combined and for selected industries in the state as a whole, and for all industries combined in each city.

INDUSTRY AND CITY.	COAL.		Coke (tons, 2,000 lbs.).	Oil, including gasoline (barrels).	Gas (1,000 cubic feet).
	Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).			
All industries.....	1,682	429,745	23,879	224,575	24,078,701
Bread and other bakery products.....	83	1,471	50	31	234,014
Brick.....		2,142			1,804,378
Cars and general shop construction and repairs by steam-railroad companies.....		34,445	1,283	22,575	700
Flour-mill and gristmill products.....		27,854		19,435	250,150
Foundry and machine-shop products.....	45	1,453	2,445	2,944	280,935
Glass.....		300		6	2,426,681
Ice, manufactured.....		48,382	1,056	5,383	833,827
Lumber and timber products.....	554	7,838		349	12,434
Oil, cottonseed, and cake.....		46,249		1,207	356,054
Petroleum, refining.....		2,762		143,282	2,976,649
Smelting and refining, zinc.....		130,622	23,166		13,226,345
Wall plaster.....		4,458		11,673	
All other industries.....	1,000	121,769	1,879	17,690	1,676,534
Total for cities.....	896	44,112	4,215	90,467	2,230,040
CHICKASHA.....		12,191	533	2,149	176
ENID.....	80	5,571	1,390	11,984	1,210
GUTHRIE.....		100		10	94,006
MCALESTER.....	8	10,383	428	80	545
MUSKOGEE.....	7	5,376	293	45,049	252,379
OKLAHOMA CITY.....	755	931	490	25,851	1,137,419
SAPULPA.....		90		8	97,591
SHAWNEE.....	16	9,407	172	2,483	114,933
TULSA.....		63	909	2,853	531,781



## MANUFACTURES—OKLAHOMA.

## SPECIAL STATISTICS.

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantities and cost of materials, the quantities and values of products, and other information for which no provision is made on the general schedule. Certain data of this character for four important industries in Oklahoma are here presented, and also statistics for power laundries.

**Flour-mill and gristmill products.**—Table 21 gives the quantities and values of flour-mill and gristmill products for the last three census years.

Table 21	1914	1909	1904
Total value .....	\$16,688,690	\$10,144,475	\$12,018,923
Wheat flour:			
Barrels .....	2,072,240	2,205,039	1,962,317
Value .....	\$9,832,201	\$10,959,367	\$8,886,633
Rye flour:			
Barrels .....	430	140	458
Value .....	\$2,010	\$698	\$2,152
Corn meal and corn flour:			
Barrels .....	266,284	382,721	206,223
Value .....	\$964,488	\$1,124,244	\$497,903
Bran and middlings:			
Tons .....	83,282		
Value .....	\$1,660,005	286,005	155,031
Feed and offal:			
Tons .....	141,419	\$6,760,825	\$2,631,053
Value .....	\$3,803,072		
All other cereal products, value .....	\$8,523	\$300	-----
All other products, value .....	\$418,391	\$200,041	\$1,182

The value of the products of the flour-mill and gristmill industry amounted to \$16,688,690 in 1914, an increase of 38.9 per cent for the decade but a decrease of 12.8 per cent for the last five-year period. This is true of each item, except rye flour. Wheat flour, the chief product at each census period, represented 58.9 per cent of the total value of products in 1914. The number of establishments reporting the manufacture of wheat flour decreased 14.1 per cent from 1909 to 1914; the quantity produced decreased 6 per cent and its value 10.3 per cent. Feed and offal constitutes the next most important product in 1914, representing 22.8 per cent of the total value of products.

**Oil, cottonseed, and cake.**—Oklahoma ranks tenth among the states in cottonseed products manufactured. The increase in the total value of products from census to census shows a rapid growth of this industry in the state. The following table gives the quantity of cotton seed used for oil extraction and the quantities of the several crude products obtained for the census years 1914, 1909, and 1904.

The statistics in this table for 1914 relate to the crushing season of 1913-14—that is, to the handling of seed from the crop of 1913. They cover the operations of all establishments which crushed cotton seed during the season, regardless of the extent to which they were engaged in other branches of industry. Furthermore, the crude products reported represent the total production derived from crushing cotton seed, whether sold as such or used as intermediate

products in further processes of manufacture, such as the refining of oil and the mixing of fertilizer and feed.

Table 22 MATERIAL AND PRODUCT.	QUANTITY.		
	1914	1909	1904
Cotton seed crushed, tons (2,000 lbs.) .....	255,075	186,352	168,454
Crude products manufactured:			
Oil, gallons .....	8,292,903	6,817,974	6,384,973
Meal and cake, tons (2,000 lbs.) .....	118,903	78,690	67,417
Hulls, tons (2,000 lbs.) .....	72,778	62,290	62,284
Linters, pounds .....	20,753,751	9,584,227	7,169,900

The total quantity of cotton seed crushed increased from 168,454 tons in 1904 to 255,075 tons in 1914, or 51.4 per cent. Of the 60 mills reported in 1914 as crushing cotton seed, 9 crushed less than 1,000 tons per mill during the census year; 6 crushed from 1,000 to 2,000 tons; 18 crushed from 2,000 to 5,000 tons; 25 crushed from 5,000 to 10,000 tons; and 2 crushed 10,000 tons and over.

The quantities of the various products obtained in 1914 per ton of seed, as received at the mill, were as follows: Crude oil, 32.5 gallons; cake and meal, 932 pounds; hulls, 571 pounds; and linters, 81 pounds. The ratio which the several products bore to the total weight of the seed when received at the mill were as follows: Crude oil, 12.2 per cent; cake and meal, 46.6 per cent; hulls, 28.6 per cent; and linters, 4.1 per cent. It will be observed that there has been an increase in the actual weights of all products, but that hulls now represent a smaller proportion of the total than formerly, due, in part, to the installation of cold-process machinery, which expresses the oil without hulling the seed, the resulting cake thus containing the hulls.

**Petroleum, refining.**—Measured by value of products, this industry, which in 1909 was eleventh in the state, now ranks third, while Oklahoma ranks eighth among the states. The following table gives the statistics for 1914 in comparison with 1909:

Table 23	1914	1909
MATERIALS.		
Total cost .....	\$9,590,737	\$575,473
Crude petroleum: <sup>1</sup>		
Barrels (42 gallons) .....	9,906,176	1,078,286
Cost .....	\$8,746,159	\$489,552
Sulphuric acid, sulphur, and caustic soda, cost .....	\$104,500	\$22,060
Containers and materials therefor, cost .....	\$34,932	\$8,185
All other materials, cost .....	\$705,146	\$55,676
PRODUCTS.		
Total value .....	\$13,014,372	\$1,055,011
Naphtas and lighter products:		
Gasoline (from crude petroleum)—		
Barrels (50 gallons) .....	\$1,621,998	
Value .....	\$5,824,332	125,179
All other—		
Barrels .....	401,434	\$350,167
Value .....	\$1,074,237	

<sup>1</sup> Marketed production of crude petroleum—Oklahoma, 1914: 73,631,724 barrels; 1909, 47,859,213 barrels.

<sup>2</sup> Includes some partly refined oils and waxes and some natural gas used by the refineries.

<sup>3</sup> In addition, there were produced at the wells in 1914, 345,551 barrels (50 gallons) of casing-head gasoline, valued at \$1,113,059.

Table 23—Continued.

	1914	1909
PRODUCTS—continued.		
Illuminating oils:		
Barrels.....	1,754,683	245,109
Value.....	\$2,238,898	\$369,662
Fuel oils:		
Distillates—		
Barrels.....	383,858	
Value.....	\$522,159	
Gas oils—		
Barrels.....	195,833	409,284
Value.....	\$151,508	\$242,957
Residual fuel oil—		
Barrels.....	4,165,136	
Value.....	\$2,380,808	
Lubricating oils:		
Barrels.....	87,591	113,110
Value.....	\$341,256	\$333,396
Residuum or tar:		
Barrels.....	159,508	43,804
Value.....	\$85,489	\$23,119
Greases:		
Barrels.....	335	
Value.....	\$3,281	
Paraffin wax:		
Barrels.....	16,598	\$35,710
Value.....	\$65,340	
All other products, value.....	\$327,064	
EQUIPMENT.		
Still, number.....	181	30
Steam—		
Number.....	56	10
Capacity (barrels, 42 gallons).....	24,372	2,895
Fire—		
Number.....	125	20
Capacity.....	57,425	6,650
Agitators.....	47	12
Storage tanks for:		
Crude petroleum—		
Number.....	61	33
Capacity (gallons).....	28,826,000	1,794,000
Refined petroleum products—		
Number.....	412	112
Capacity.....	48,791,000	5,477,000
Fuel oil—		
Number.....	76	
Capacity.....	39,600,000	
Other storage tanks—		
Number.....	138	
Capacity.....	1,593,000	

<sup>1</sup> Includes some partly refined oils and waxes and some natural gas used by the refineries.

The total production of refined oils in 1914 was 8,610,533 barrels, of which fuel oils constituted 55.1 per cent, gasoline and naphthas 23.5 per cent, illuminating oils 20.4 per cent, and lubricating oils 1 per cent. In 1909 the oil production aggregated 792,682 barrels, of which fuel oils formed 51.6 per cent, gasoline and naphthas 15.8 per cent, illuminating oils 30.9 per cent, and lubricating oils 1.7 per cent.

**Printing and publishing.**—The number and aggregate circulation per issue of the various classes of publications in Oklahoma in 1914, 1909, and 1904, are given in Table 24.

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1914	1909	1904	1914	1909	1904
Total.....	596	593	453	1,081,933	857,959	533,063
Daily.....	59	67	44	242,305	185,479	74,451
Sunday.....	12	11	8	117,153	77,326	43,802
Weekly.....	500	500	389	504,595	513,979	360,013
Monthly.....	25	15	12	217,875	81,175	54,797

<sup>1</sup> Includes semiweeklies—three in 1914, one in 1909, and two in 1904.

<sup>2</sup> Includes in 1914 one quarterly and four semimonthly publications; in 1909 three, and in 1904 two, semimonthly publications.

The number of daily newspapers decreased by eight during the five-year period 1909–1914, but their circulation increased by 56,826, or 30.6 per cent, during

that time. The weekly newspapers were by far the most important class at each census, measured either by number of publications or by aggregate circulation per issue. In circulation, however, this class decreased 9,384, or 1.8 per cent, from 1909 to 1914, and was the only class to show a decrease in circulation at either five-year period. The Sunday publications and the combined monthly, semimonthly, and quarterly publications are the only ones showing increases in both number and circulation; the great increase—168.4 per cent—shown for the combined circulation of these last three mentioned publications in 1914, as compared with 1909, is due to a number of semimonthly agricultural publications.

All the publications in 1914, except three German weeklies of small circulation, were in the English language.

**Laundries.**—Statistics for power laundries are not included in the general tables or in the totals for all manufacturing industries. Table 25, however, summarizes these statistics for Oklahoma for 1914 and 1909.

Table 25

	POWER LAUNDRIES.		
	Number or amount.		Per cent of increase, <sup>1</sup> 1909–1914.
	1914	1909	
Number of establishments.....	101	93	.....
Persons engaged.....	1,632	1,301	25.4
Proprietors and firm members.....	115	105	9.5
Salaries and wages.....	101	95	.....
Wage earners (average number).....	1,418	1,101	28.6
Primary horsepower.....	1,766	1,484	19.0
Capital.....	\$986,074	\$781,531	26.2
Salaries and wages.....	753,997	563,685	33.8
Salaries.....	100,677	75,690	33.0
Wages.....	653,320	487,995	33.9
Paid for contract work.....	674	541	24.6
Rent and taxes.....	53,506	33,635	59.1
Cost of materials.....	359,743	200,679	79.3
Amount received for work done.....	1,669,721	1,197,978	39.4

<sup>1</sup> Percentages are omitted where base is less than 100.

In 1914 Oklahoma ranked twenty-first among the states in amount received for work done and twenty-fifth in number of persons engaged in the industry, having advanced since 1909 from twenty-second and twenty-sixth places, respectively. The table shows increases in all the items given, those in receipts for work done and in average number of wage earners amounting to 39.4 per cent and 28.6 per cent, respectively. In character of organization individual ownership formed the largest class at both censuses, 49 establishments being reported in 1914 as against 47 in 1909. The number of establishments under corporate ownership increased from 19 in 1909 to 25 in 1914, while the number under "all other" forms of ownership showed no change, being 27 in both years. In the amount received for work done each class showed an increase, but the percentage of increase reported by corporations was much the greatest, 99.6 per cent as against 13 per cent for individuals, and 8.1 per cent for all other forms.

Table 26 shows, for 1914 and 1909, the number of wage earners employed in the laundries on the 15th of each month, or the nearest representative day, and the percentage which this number represents of the greatest number reported for any month of the year.

MONTH.	WAGE EARNERS.			
	Number.		Per cent of maximum.	
	1914	1909	1914	1909
January.....	1,326	993	87.8	84.2
February.....	1,332	995	88.2	84.4
March.....	1,352	1,022	89.5	86.7
April.....	1,379	1,040	91.3	88.2
May.....	1,393	1,064	92.2	90.2
June.....	1,459	1,099	96.6	93.2
July.....	1,510	1,160	100.0	98.4
August.....	1,492	1,167	98.8	99.0
September.....	1,486	1,179	98.4	100.0
October.....	1,452	1,171	96.2	99.3
November.....	1,417	1,151	93.8	97.6
December.....	1,396	1,167	92.4	99.0

Table 27 gives statistics as to kinds and amounts of power used in the laundries of the state in 1914 and 1909, together with percentages of increase for the five-year period.

Table 28 shows the kinds and quantities of fuel used in the laundries, as reported at the censuses of 1914 and 1909, with percentages of increase.

POWER.	NUMBER OF ENGINES OR MOTORS.		HORSEPOWER.		
			Amount.		Percent of increase, <sup>1</sup> 1909-1914.
	1914	1909	1914	1909	
Primary power, total.....	212	250	1,766	1,484	19.0
Owned.....	88	184	1,345	1,248	7.8
Steam engines and turbines.....	76	176	1,255	1,195	5.0
Internal-combustion engines.....	10	8	82	53	.....
Water wheels, turbines, and motors.....	2	.....	8	.....	.....
Rented.....	124	66	421	236	78.4
Electric.....	124	66	421	231	82.3
Other.....	.....	.....	.....	5	.....
Electric.....	129	69	443	244	81.6
Rented.....	124	66	421	236	78.4
Generated by establishment reporting.....	5	3	22	8	.....

<sup>1</sup> Percentages are omitted where base is less than 100.

KIND.	Unit.	QUANTITY.		Per cent of increase, <sup>1</sup> 1909-1914.
		1914	1909	
Anthracite coal.....	Ton, 2,240 lbs.....	1,292	696	85.6
Bituminous coal.....	Ton, 2,000 lbs.....	9,161	9,377	-2.3
Coke.....	Ton, 2,000 lbs.....	550	.....	.....
Oil, including gasoline.....	Barrels.....	188	1,346	-86.0
Gas.....	1,000 cubic feet.....	1,220,414	224,175	444.4

<sup>1</sup> A minus sign (-) denotes decrease.

### GENERAL TABLES.

Table 29 gives, for 1914, 1909, and 1904, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products, for selected industries in the state and in the cities having 50,000 inhabitants or more; and for the cities having from 10,000 to 50,000 inhabitants, similar data for all industries combined.

Table 30 presents, for 1914, in the state as a whole and in the cities with 50,000 inhabitants or more, statistics in detail for each industry that can be shown without the disclosure of individual operations, and the statistics for all industries combined for each of the cities in the state having from 10,000 to 50,000 inhabitants.

TABLE 29.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earn- ers (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earn- ers (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.															
All industries.....	1914	2,518	17,443	97,308	\$11,011	\$70,970	\$102,066	Clothing, men's, in- cluding shirts.	1914	6	207	68	\$84	\$262	\$417
	1909	2,310	13,143	71,139	7,240	34,153	53,682		1909	3	113	18	42	126	194
	1904	1,123	5,456	29,608	2,799	16,394	24,459								
Bread and other bakery products.	1914	342	697	569	381	1,581	2,774	Coffee, roasting and grinding.	1914	6	60	171	28	618	757
	1909	252	418	223	252	969	1,794		1909	4	18	69	9	429	500
	1904	121	157	27	88	410	692	Confectionery.....	1914	37	57	86	32	165	295
									1909	11	39	26	16	59	115
Brick.....	1914	23	402	3,231	217	129	496		1904	6	23	9	7	60	89
	1909	38	730	3,733	378	226	1,029								
	1904	50	401	3,029	186	128	510	Copper, tin, and sheet- iron work.	1914	72	141	94	99	241	474
									1909	62	233	46	184	411	799
Brooms, from broom corn.	1914	36	97	115	53	107	227		1904	18	69	.....	52	107	215
	1909	23	76	51	43	145	248								
	1904	12	42	20	19	31	72	Flour-mill and grist- mill products.	1914	253	700	14,050	420	14,367	16,689
									1909	295	842	16,400	473	16,493	19,144
Butter.....	1914	14	46	282	28	673	809		1904	108	617	9,013	331	10,187	12,019
	1909	19	62	427	36	928	1,150	Food preparations, not elsewhere specified.	1914	11	41	470	18	143	220
	1904	3	11	91	6	66	89		1909	8	40	556	24	104	175
Cars and general shop construction and re- pairs by steam-rail- road companies.	1914	13	1,718	954	1,155	956	2,270	Foundry and machine- shop products.	1914	2 122	886	2,443	676	1,674	3,173
	1909	8	1,412	957	942	842	1,702		1909	64	457	1,113	320	587	1,371
	1904	4	274	130	184	322	528		1904	26	121	332	77	76	233

<sup>1</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>2</sup> Includes "automobile repairing"; "gas machines and gas and water meters"; "hardware"; "hardware, saddlery"; "pumps, steam"; and "structural ironwork, not made in steel works or rolling mills."

## MANUFACTURES—OKLAHOMA.

19

TABLE 29.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
					THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.										
Ice, manufactured.....	1914	97	528	15,195	\$353	\$402	\$1,604	Petroleum, refining.....	1914	23	516	3,304	\$432	\$9,591	\$13,014
	1909	77	449	10,359	270	307	1,273		1909	9	75	231	54	575	1,055
	1904	44	197	5,348	107	121	528								
Lumber and timber products.	1914	1 284	2,651	12,799	1,308	1,685	4,114	Printing and publish- ing.	1914	2 624	1,619	2,288	1,022	923	4,024
	1909	342	3,175	12,397	1,269	1,487	4,439		1909	598	1,698	1,664	1,044	1,004	3,989
	1904	60	458	2,361	245	437	1,017		1904	423	1,139	652	574	473	2,101
Marble and stone work.	1914	55	142	453	96	122	340	Saddlery and harness...	1914	30	54	39	43	240	368
	1909	41	147	257	111	187	418		1909	15	66	26	62	226	375
	1904	11	63	95	34	34	106		1904	14	65	.....	45	153	280
Mattresses and spring beds.	1914	11	75	259	42	164	268	Smelting and refining, zinc.	1914	6	1,641	4,143	1,310	7,879	9,939
	1909	7	49	151	30	99	153		1909	3	566	1,181	343	2,133	3,002
Mineral and soda waters.	1914	108	122	222	70	210	472	Wall plaster.....	1914	6	151	1,347	89	104	313
	1909	105	143	183	64	145	455		1909	11	259	1,721	142	165	435
	1904	67	121	108	49	90	284		1904	2 5	77	395	34	34	131
Oil, cottonseed, and cake.	1914	60	851	16,315	360	6,283	7,590	All other industries.....	1914	279	4,041	18,411	2,695	22,451	31,359
	1909	39	581	10,720	235	4,245	5,187		1909	276	1,495	8,630	897	2,461	4,680
	1904	24	496	6,005	182	2,353	3,109		1904	127	1,125	1,993	579	1,312	2,466

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

OKLAHOMA CITY— All industries.	1914	195	2,226	9,172	\$1,353	\$16,232	\$20,726	OKLAHOMA CITY— Continued.							
	1909	171	1,398	4,132	973	5,146	7,868								
	1904	89	720	.....	422	2,362	3,671								
Bread and other bakery products.	1914	16	283	229	130	502	848	Lumber, planing-mill products, including wooden-box factories.	1914	5	85	389	\$60	\$140	\$215
	1909	17	85	39	58	214	365		1909	8	150	277	106	193	388
	1904	9	29	.....	19	49	88		1904	4	71	.....	34	142	232
Flour-mill and gristmill products.	1914	6	81	1,195	60	2,468	2,746	Patent medicines and compounds and drug- gists' preparations.	1914	13	27	34	17	48	111
	1909	7	75	1,187	56	1,839	2,087		1909	8	11	8	6	9	35
	1904	3	47	.....	28	1,049	1,227		1904	3	8	.....	3	6	24
Foundry and machine- shop products.	1914	17	133	265	32	227	482	Printing and publish- ing.	1914	2 53	426	505	256	349	1,269
	1909	7	87	185	63	97	222		1909	44	367	347	288	419	1,269
	1904	6	55	.....	35	37	96		1904	18	116	.....	70	80	328
	1914	85	1,191	6,555	748	12,498	15,055	All other industries.....	1914	85	1,191	6,555	748	12,498	15,055
	1909	80	623	2,089	395	2,375	3,502		1909	80	623	2,089	395	2,375	3,502
	1904	46	394	.....	233	999	1,676		1904	46	394	.....	233	999	1,676

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

CHICKASHA.....	1914	29	337	1,633	\$235	\$1,277	\$1,720	MUSKOGEE.....	1914	80	828	2,220	\$560	\$1,673	\$2,755
	1909	30	364	1,488	242	1,285	1,867		1909	64	381	1,421	241	1,478	2,276
ENID.....	1914	45	283	1,715	175	2,048	2,611	SAPULPA.....	1914	30	433	670	228	235	604
	1909	65	303	1,722	191	1,807	2,453								
GUTHRIE.....	1914	30	185	1,211	116	563	853	SHAWNEE.....	1914	46	845	2,059	533	1,808	2,598
	1909	34	282	1,281	163	948	1,443		1909	40	806	1,831	473	1,165	1,941
	1904	34	333	.....	186	701	1,201	TULSA.....	1914	103	845	3,030	684	2,170	3,868
MCALISTER.....	1914	33	171	1,111	101	298	574		1909	53	462	1,586	315	874	1,563
	1909	29	180	895	101	195	451								

<sup>1</sup> Includes "boxes, wooden packing" and "lumber, planing-mill products, not including planing mills connected with sawmills."<sup>2</sup> Includes "bookbinding and blank-book making" and "engraving, steel and copper plate, including plate printing."<sup>3</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.<sup>4</sup> Includes "automobile repairing"; "gas machines and gas and water meters"; "hardware"; and "structural ironwork, not made in steel works or rolling mills."<sup>5</sup> Includes "perfumery and cosmetics."<sup>6</sup> Figures do not agree with those published because certain establishments revised their reports for that census.

## MANUFACTURES—OKLAHOMA.

TABLE 30.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.			
					Male.	Female.	Average number.	Number, 15th day of—		Male.	Female.	Male.	Female.		
								Maximum month.							Minimum month.

## THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

	2,518	22,700	2,464	1,105	1,353	335	17,443	Oc	18,088	Au	16,902	(8)	(9)	(3)	(5)	(5)	\$65,477,654
1 All industries.....	2,518	22,700	2,464	1,105	1,353	335	17,443	Oc	18,088	Au	16,902	(8)	(9)	(3)	(5)	(5)	\$65,477,654
2 Artificial stone products.....	43	126	48	1	.....	2	75	My	109	Ja	35	120	120	.....	.....	.....	168,311
3 Automobile repairing.....	18	71	21	3	1	2	44	Au	53	Ja	35	51	51	.....	.....	.....	84,303
4 Awnings, tents, and sails.....	12	45	14	3	.....	1	27	Jy	42	Fe <sup>4</sup>	15	32	22	10	.....	.....	30,455
5 Bookbinding and blank-book making	3	11	2	1	1	.....	7	De <sup>4</sup>	8	Fe <sup>4</sup>	5	8	4	4	.....	.....	11,593
6 Boxes, wooden packing.....	3	40	1	4	1	.....	34	De <sup>4</sup>	35	Fe <sup>4</sup>	33	36	32	.....	4	.....	39,035
7 Bread and other bakery products....	342	1,155	409	8	15	26	697	Au	725	Fe	656	753	570	179	3	1	1,304,773
8 Brick.....	23	464	7	34	17	4	402	Je	534	De	206	607	608	.....	1	.....	1,484,030
9 Brooms, from broom corn.....	36	149	44	2	4	2	97	No <sup>4</sup>	103	Jy	83	112	107	5	.....	.....	130,403
10 Butter.....	14	75	9	9	6	5	46	Je <sup>4</sup>	53	Ja	39	47	40	7	.....	.....	553,799
11 Canning, fruits and vegetables.....	3	18	1	2	.....	.....	15	Au	88	De <sup>6</sup>	0	91	10	81	.....	.....	7,035
12 Carpets, rag.....	3	5	4	.....	.....	.....	1	De <sup>4</sup>	3	Au <sup>6</sup>	0	4	4	.....	.....	.....	1,375
13 Carriages, wagons, and repairs.....	13	64	17	1	1	.....	45	Jy <sup>4</sup>	47	Ja <sup>4</sup>	43	47	47	.....	.....	.....	65,389
14 Cars and general shop construction and repairs by electric-railroad companies.	7	72	.....	7	7	.....	53	No <sup>4</sup>	59	Je	56	59	59	.....	.....	.....	145,823
15 Cars and general shop construction and repairs by steam-railroad companies.	13	1,833	1	39	69	6	1,718	Au	2,005	Ja	1,390	1,653	1,649	4	.....	.....	1,622,741
16 Coffee, roasting and grinding.....	6	79	2	8	8	1	60	De	71	Ja	55	71	37	34	.....	.....	191,192
17 Confectionery and ice cream.....	88	301	107	17	15	6	156	.....	.....	.....	.....	196	170	26	.....	.....	481,642
18 Confectionery.....	37	111	42	3	6	3	57	Jy	60	My <sup>4</sup>	55	67	44	23	.....	.....	92,925
19 Ice cream.....	51	190	65	14	9	3	99	Jy	164	De <sup>4</sup>	53	129	126	3	.....	.....	388,717
20 Copper, tin, and sheet-iron work....	72	247	87	9	7	3	141	Ap	155	No	124	148	144	.....	4	.....	270,480
21 Explosives.....	6	96	2	11	7	3	73	Ja	103	De	38	74	74	.....	.....	.....	649,167
22 Flour-mill and gristmill products....	253	1,265	269	100	159	37	700	Se	761	My <sup>4</sup>	650	772	772	.....	.....	.....	6,508,081
23 Food preparations, not elsewhere specified.	11	61	9	5	3	3	41	.....	.....	.....	.....	63	51	10	2	.....	133,803
24 Cereals and table foods, macaroni, and other food products for human consumption.	6	38	6	3	2	2	25	Se	36	Fe	16	30	19	9	2	.....	74,602
25 For animals and fowls.....	5	23	3	2	1	1	16	Au <sup>4</sup>	28	Ja	2	33	32	1	.....	.....	59,141
26 Foundry and machine-shop products.	99	1,031	32	57	88	19	785	.....	.....	.....	.....	763	700	1	2	.....	3,030,825
27 Machine shops.....	87	957	70	55	87	18	727	Ap	819	No	625	708	705	1	2	.....	2,942,272
28 Boiler shops.....	8	33	10	.....	.....	1	22	Se	27	De	15	20	20	.....	.....	.....	19,320
29 Foundries.....	4	41	2	2	1	.....	36	Je <sup>4</sup>	45	Ja	25	35	35	.....	.....	.....	75,233
30 Furniture, metal, and store and office fixtures.	5	50	4	4	3	.....	39	Fe <sup>4</sup>	45	Se <sup>4</sup>	34	39	37	2	.....	.....	73,291
31 Gas, illuminating and heating.....	5	60	.....	6	8	2	44	Je	47	Oc	39	46	46	.....	.....	.....	1,478,718
32 Glass.....	12	1,321	6	21	15	9	1,270	Ap	1,793	Au	633	1,805	1,702	102	1	.....	1,650,679
33 Ice, manufactured.....	97	783	60	123	56	16	528	Jy	907	Ja	242	759	751	3	5	.....	3,714,982
34 Lime.....	3	21	.....	4	.....	.....	17	Mh <sup>4</sup>	22	Au <sup>4</sup>	14	24	24	.....	.....	.....	39,451
35 Lumber and timber products.....	226	2,622	245	52	76	4	2,245	Fe	2,421	De	1,971	3,124	3,123	.....	1	.....	3,386,558
36 Lumber, planing-mill products, not including planing mills connected with sawmills.	55	472	58	28	11	3	372	Je	440	De	306	352	348	4	.....	.....	816,559
37 Marble and stone work.....	55	233	71	3	17	.....	142	Je	158	Ja	123	147	145	1	1	.....	425,607
38 Mattresses and spring beds.....	11	101	8	10	5	3	75	De	91	Au	59	101	85	15	1	.....	188,282
39 Mineral and soda waters.....	108	268	130	8	7	1	122	Au <sup>4</sup>	209	Ja	56	188	171	3	14	.....	403,945
40 Oil, cottonseed, and cake.....	60	1,110	11	155	83	10	851	De	1,718	Je	190	1,730	1,730	.....	.....	.....	6,465,224
41 Patent medicines and compounds...	13	37	9	9	3	.....	16	No <sup>4</sup>	18	Je <sup>4</sup>	15	17	10	6	1	.....	31,525
42 Paving materials.....	3	118	3	8	7	.....	100	Je	130	Ja	60	126	126	.....	.....	.....	51,483
43 Perfumery and cosmetics.....	3	7	2	.....	.....	.....	5	(e)	5	(e)	5	5	4	1	.....	.....	6,800
44 Petroleum, refining.....	23	736	.....	78	129	13	516	Ja	601	My	495	520	520	.....	.....	.....	8,556,725
45 Photo-engraving.....	3	21	3	.....	.....	.....	18	Mh	19	My	17	18	17	1	.....	.....	17,077
46 Printing and publishing, book and job.	76	452	69	36	34	21	292	De	313	Au	273	322	256	58	8	.....	758,106
47 Printing and publishing, newspapers and periodicals.	542	2,226	528	133	171	76	1,318	.....	.....	.....	.....	1,374	1,093	186	91	4	2,845,391
48 Printing and publishing.....	15	427	10	28	79	27	283	De	294	Jy	273	286	261	23	2	.....	690,544
49 Printing, publishing, and job printing.	494	1,747	499	96	82	41	1,029	Oc	1,068	Fe	979	1,080	824	163	89	4	2,130,406
50 Publishing without printing.....	33	52	19	9	10	8	6	De <sup>4</sup>	8	Jy <sup>4</sup>	3	8	8	.....	.....	.....	24,441
51 Saddlery and harness.....	30	100	32	5	9	.....	54	No	57	Jy <sup>4</sup>	52	59	59	.....	.....	.....	163,288
52 Smelting and refining, zinc.....	6	1,702	.....	13	45	3	1,641	Se	1,770	Je	1,575	1,711	1,711	.....	.....	.....	5,054,062
53 Tobacco, cigars.....	38	137	44	3	2	.....	88	De <sup>4</sup>	104	Jy	74	115	64	48	3	.....	69,787
54 Wall plaster.....	6	187	.....	13	18	5	151	Ja	178	Oc	131	142	142	.....	.....	.....	913,851
55 All other industries*.....	72	2,728	45	72	245	49	2,317	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,439,394

\* Owned power only.

\* Includes rented power, other than electric.

\* No figures given for reasons stated under "Explanation of terms."

\* All other industries embrace—  
 Agricultural implements..... 2  
 Artificial limbs..... 1  
 Automobile bodies and parts..... 3  
 Baking powders..... 1  
 Bluing..... 1  
 Bone and carbon black..... 1  
 Boots and shoes (leather leggings)..... 1

Boxes and cartons, paper..... 1  
 Carriage and wagon materials..... 3  
 Cars, steam-railroad, not including operations of railroad companies... 2  
 Cement..... 1  
 Clothing, men's and youths'..... 3  
 Cordage and twine..... 1  
 Druggists' preparations..... 1

Engraving, steel and copper plate, including plate printing..... 2  
 Furnishing goods, men's..... 1  
 Gas and electric fixtures..... 1  
 Gas machines and gas and water meters..... 1  
 Hair work..... 1  
 Hand stamps..... 2

Hardware..... 2  
 Hardware, saddlery..... 1  
 Hats, fur-felt..... 1  
 Hats, wool-felt..... 1  
 House-furnishing goods, not elsewhere specified..... 1  
 Iron and steel, steel works and rolling mills..... 1

# MANUFACTURES—OKLAHOMA.

21

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$1,706,418	\$1,495,914	\$11,011,043	\$307,885	\$358,704	\$551,025	\$68,152,836	\$2,816,914	\$102,005,693	\$31,035,943	97,308	70,803	16,181	256	10,068	13,692	1
1,200	300	34,867	.....	625	2,035	56,097	541	137,391	80,753	90	4	69	.....	17	.....	2
3,700	1,180	29,285	200	7,502	1,602	36,919	2,036	119,746	80,791	79	.....	9	.....	70	.....	3
3,300	600	12,298	50	2,585	397	41,875	476	79,506	37,155	14	.....	.....	.....	14	.....	4
1,200	400	4,472	.....	1,110	112	4,475	199	14,535	9,861	8	.....	.....	.....	8	.....	5
5,280	720	31,664	.....	340	897	19,119	487	67,316	47,710	95	75	.....	.....	20	.....	6
9,330	32,741	381,488	.....	61,326	15,692	1,519,691	61,105	2,773,811	1,193,015	569	10	36	.....	523	.....	7
41,975	18,073	216,602	.....	1,106	7,434	84,826	94,628	495,903	366,449	3,231	2,230	833	.....	168	799	8
2,274	5,800	52,734	.....	3,054	1,634	105,308	1,848	227,224	120,068	115	2	53	.....	60	.....	9
14,839	8,860	27,616	79	2,900	2,111	664,980	8,317	308,978	135,681	282	185	4	.....	93	.....	10
280	.....	2,752	.....	.....	65	4,117	107	10,708	6,484	51	51	.....	.....	.....	.....	11
.....	.....	330	10	110	28	415	97	2,925	2,413	18	.....	8	.....	10	.....	12
1,800	600	32,072	.....	2,249	900	22,010	1,797	84,678	60,871	81	12	22	.....	47	.....	13
8,195	978	48,310	.....	.....	1,756	41,204	1,380	98,215	55,631	125	.....	.....	.....	125	.....	14
57,281	73,347	1,155,357	.....	.....	29,359	873,502	82,243	2,270,374	1,314,629	954	463	76	.....	415	40	15
8,750	16,959	27,531	.....	3,510	3,768	615,381	2,985	756,677	138,311	171	3	2	.....	166	.....	16
21,125	11,978	90,630	541	19,762	6,070	516,609	25,145	931,257	389,503	1,386	900	97	.....	389	54	17
3,450	5,029	31,811	.....	12,558	1,139	161,475	3,394	284,504	129,635	86	.....	.....	.....	86	.....	18
17,975	6,849	58,819	533	7,104	4,931	355,134	21,751	636,753	259,888	1,300	900	97	.....	303	54	19
7,459	4,635	98,669	726	10,836	3,126	238,778	2,604	474,484	233,102	94	2	21	.....	71	.....	20
21,852	10,253	78,523	.....	2,646	5,495	317,416	2,703	538,015	217,896	477	477	.....	.....	380	21	21
156,002	197,187	420,049	120	3,865	57,097	14,206,706	160,260	16,688,690	2,321,724	14,050	8,927	3,428	90	1,605	591	22
5,460	4,671	17,596	18	2,418	1,769	138,712	3,849	219,522	76,961	470	325	100	.....	45	.....	23
3,450	3,651	8,518	.....	2,055	629	45,153	1,033	84,739	38,553	78	50	.....	.....	28	.....	24
2,010	1,020	9,078	18	363	1,140	93,559	2,816	134,783	38,408	392	275	100	.....	17	.....	25
102,367	106,178	605,442	4,075	13,965	23,312	1,450,102	64,523	2,856,571	1,341,946	2,209	426	523	.....	1,260	86	26
100,183	104,775	567,974	3,604	13,146	22,675	1,433,840	60,835	2,770,362	1,275,687	2,106	426	508	.....	1,172	86	27
2,184	480	15,008	.....	798	270	6,703	449	38,995	31,843	19	.....	.....	.....	19	.....	28
5,500	923	22,460	471	21	364	9,559	3,239	47,214	34,416	84	.....	15	.....	69	.....	29
.....	2,020	27,465	.....	1,246	184	63,358	1,976	109,570	44,236	113	35	55	.....	23	.....	30
6,632	6,689	23,088	.....	.....	7,405	8,685	43,268	146,795	94,839	352	306	.....	.....	46	40	31
32,150	16,393	991,958	.....	.....	7,361	645,137	74,671	2,005,736	1,285,928	1,291	630	525	.....	136	535	32
123,594	37,988	353,447	2,196	1,028	49,697	163,558	238,571	1,604,146	1,202,018	15,195	14,063	813	.....	319	589	33
2,169	.....	3,866	.....	.....	254	5,566	3,735	16,680	7,379	65	65	.....	.....	.....	.....	34
83,544	56,042	949,505	185,418	880	44,231	847,076	26,881	2,729,391	1,855,434	11,124	10,957	54	113	.....	389	35
33,560	13,166	326,735	2,310	8,378	10,396	781,802	9,897	1,316,815	525,116	1,580	431	239	.....	910	145	36
5,241	8,120	96,287	9,328	3,202	4,188	114,663	7,326	339,575	217,586	453	313	53	.....	87	80	37
12,916	3,980	42,269	400	2,517	1,828	160,848	3,229	268,378	104,301	259	.....	65	.....	194	.....	38
7,225	5,030	69,877	175	8,911	5,514	204,756	4,822	472,235	262,657	222	11	89	3	119	.....	39
220,913	70,158	359,958	1,395	1,310	74,052	6,121,638	161,765	7,589,813	1,306,410	16,315	15,690	366	50	209	133	40
2,762	2,080	9,790	.....	2,028	353	25,340	107	62,036	36,589	7	.....	6	.....	1	.....	41
12,780	6,898	48,481	.....	11,055	921	11,990	10,873	90,796	67,933	625	545	80	.....	.....	.....	42
.....	.....	3,940	.....	750	570	9,125	55	22,900	13,720	2	.....	.....	.....	2	.....	43
229,478	166,763	432,005	13,624	1,354	59,328	9,348,984	241,753	13,014,372	3,423,635	3,304	1,887	1,352	.....	65	471	44
.....	.....	15,055	.....	1,590	111	2,900	534	27,684	24,250	21	.....	.....	.....	21	.....	45
50,616	45,565	212,912	8,935	32,496	7,422	199,681	9,688	760,477	551,108	449	80	8	.....	361	.....	46
201,379	193,810	803,255	48,952	106,340	33,053	661,786	43,693	3,237,734	2,532,255	1,829	25	582	.....	1,222	6	47
62,090	84,624	162,547	750	18,936	8,574	227,774	7,210	903,701	668,717	344	.....	2	.....	342	.....	48
127,855	101,822	638,392	14,187	85,586	24,234	427,266	36,427	2,237,832	1,774,139	1,485	25	580	.....	880	6	49
11,434	7,364	2,816	34,015	1,818	245	6,746	56	96,201	89,399	.....	.....	.....	.....	.....	.....	50
8,820	12,916	42,814	.....	10,356	2,717	238,365	1,241	367,701	128,095	39	.....	2	.....	37	.....	51
32,690	57,791	1,309,506	26,633	.....	19,227	6,874,339	1,005,115	9,938,743	2,059,289	4,143	2,467	1,531	.....	145	2,780	52
2,438	2,050	43,109	.....	4,168	15,369	79,361	697	182,765	102,707	.....	.....	.....	.....	.....	.....	53
20,002	22,653	83,960	.....	.....	4,623	65,450	38,103	313,216	209,663	1,347	1,145	202	.....	.....	42	54
137,081	270,342	1,387,474	2,700	21,216	37,562	20,610,183	371,585	27,731,609	6,749,841	14,004	8,061	4,878	.....	1,065	6,532	55

<sup>a</sup> Same number reported for one or more other months.

<sup>b</sup> None reported for one or more other months.

<sup>c</sup> Same number reported throughout the year.

Jewelry.....	1	Printing and publishing, music.....	1	Stoves, gas and oil.....	1	Vinegar and cider.....	2
Looking-glass and picture frames.....	1	Pumps, steam.....	1	Structural ironwork, not made in steel works or rolling mills.....	2	Washing machines and clothes wringers.....	2
Mirrors, framed and unframed.....	1	Roofing materials, other than metal.....	2	Tinware, not elsewhere specified.....	1	Wirework.....	2
Models and patterns, not including paper patterns.....	1	Shirts.....	3	Tools, not elsewhere specified.....	1	Wood preserving.....	1
Paints.....	1	Signs, other than electric.....	1	Trunks and valises.....	2	Wood, turned and carved.....	1
Poultry, killing and dressing.....	2	Slaughtering and meat packing.....	4	.....	.....	.....	.....
.....	.....	Soap.....	1	.....	.....	.....	.....



## MANUFACTURES—OKLAHOMA.

TABLE 30.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

## CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

1	OKLAHOMA CITY—All industries.	195	2,968	156	176	308	102	2,226	Oc	2,410	Fe	2,135	2,414	2,065	343	6	.....	\$9,002,332
2	Artificial stone products.....	3	9	4	.....	.....	.....	5	( <sup>3</sup> )	5	( <sup>3</sup> )	5	5	5	.....	.....	.....	57,700
3	Bread and other bakery products....	16	330	24	4	7	12	283	Jy	291	Fe	271	292	165	127	.....	.....	521,025
4	Confectionery and ice cream.....	7	62	4	6	7	2	43	Jy	60	De	31	49	44	5	.....	.....	236,462
5	Copper, tin, and sheet-iron work....	5	27	2	.....	.....	.....	13	Je	20	Ja	16	20	20	.....	.....	.....	29,190
6	Flour-mill and gristmill products....	6	127	8	12	26	6	81	Se	88	My	78	81	81	.....	.....	.....	1,120,592
7	Food preparations, not elsewhere specified.	5	20	3	3	2	2	10	Je	16	Ja	4	17	12	5	.....	.....	50,431
8	Foundry and machine-shop products.	13	154	10	15	18	7	104	Au	129	Ja	77	108	108	.....	.....	.....	406,120
9	Ice, manufactured.....	5	54	.....	11	7	2	34	Jy	60	Ja	7	62	62	.....	.....	.....	427,129
10	Lumber, planing-mill products, including wooden box factories.	5	100	3	9	2	1	85	Au	107	Fe	69	91	91	.....	.....	.....	267,538
11	Marble and stone work.....	3	10	3	.....	.....	.....	7	Ja	10	Ap	5	6	6	.....	.....	.....	28,050
12	Mattresses and spring beds.....	3	44	.....	6	2	2	34	Ja	42	Au	29	38	33	5	.....	.....	102,578
13	Mineral and soda waters.....	7	27	.....	.....	.....	.....	19	Au	4	Ja	15	20	20	.....	.....	.....	96,927
14	Patent medicines and compounds....	9	24	7	1	3	.....	13	( <sup>3</sup> )	13	( <sup>3</sup> )	13	13	7	5	1	.....	14,145
15	Printing and publishing, job work only.	29	263	27	23	22	15	176	Oc	192	Fe	157	182	156	22	4	.....	479,451
16	Printing and publishing, newspapers and periodicals.	21	368	10	29	58	24	247	Oc	254	Jy	232	243	222	20	1	.....	545,957
17	Tobacco, cigars.....	6	22	9	.....	.....	.....	13	De	18	Se	12	17	15	2	.....	.....	6,717
18	All other industries*.....	52	1,327	34	57	154	28	1,054	.....	.....	.....	.....	1,170	1,018	152	.....	.....	4,622,311

\* All other industries embrace—

Artificial limbs.....	1	Bookbinding and blank-book making.....	1	Carriages and wagons.....	1	Druggists' preparations.....	1
Automobile bodies and parts.....	2	Boxes and cartons, paper.....	1	Cars and general shop construction and repairs by electric-railroad companies.....	1	Engraving, steel and copper plate, including plate printing.....	2
Automobile repairing.....	1	Brick.....	1	Clothing, men's and youths'.....	1	Gas, illuminating and heating.....	1
Awnings, tents, and sails.....	2	Brooms, from broom corn.....	2	Coffee, roasting and grinding.....	4	Gas machines and gas and water meters.....	1
Baking powders.....	1	Butter.....	1				
Bluing.....	1	Carpets, rag.....	1				

## CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

1	CHICKASHA.....	29	430	27	17	44	5	337	Oc	406	Ja	243	419	405	14	.....	.....	\$1,315,095
2	ENID.....	45	390	33	25	40	9	283	No	315	Fe	238	340	303	36	1	.....	1,667,279
3	GUTHRIE.....	30	261	29	15	20	12	185	Oc	206	Ap	162	217	160	38	19	.....	612,226
4	MCALESTER.....	33	237	27	19	14	6	171	Ja	190	Mh	150	224	209	12	3	.....	984,934
5	MUSKOGEE.....	80	1,046	61	63	75	19	828	Au	895	Fe	737	950	862	84	4	.....	1,710,337
6	SAPULPA.....	30	503	32	13	21	4	433	Je	488	No	390	441	415	15	11	.....	458,785
7	SHAWNEE.....	46	966	39	40	37	5	845	Au	991	Ja	560	899	774	109	16	.....	1,534,261
8	TULSA.....	103	1,141	99	52	115	30	845	Ap	939	Au	784	910	863	43	3	1	3,195,262

1 Owned power only.

2 Includes rented power, other than electric.

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

## CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$299,057	\$427,606	\$1,352,568	\$34,186	\$89,283	\$62,110	\$16,041,650	\$190,139	\$20,725,811	\$4,494,022	9,172	6,781	314	.....	2,077	2,021	1
4,950	25,210	3,389	.....	4,166	1,045	5,050	24	13,674	8,600	2	.....	.....	.....	2	.....	2
11,000	6,951	129,686	.....	3,270	5,045	489,317	12,617	848,467	346,533	229	.....	.....	.....	229	.....	3
.....	125	31,051	.....	2,779	2,779	164,503	16,711	315,259	134,045	883	880	.....	.....	3	50	4
22,990	47,606	15,660	500	1,350	298	27,013	310	53,255	25,932	11	.....	.....	.....	11	.....	5
.....	59,593	.....	.....	502	7,088	2,448,619	19,203	2,745,636	277,814	1,195	975	120	.....	100	275	6
2,660	1,880	4,227	18	1,653	339	32,399	753	53,927	20,775	45	.....	.....	.....	45	.....	7
26,550	31,545	62,179	532	7,290	3,629	144,321	5,817	362,231	212,093	197	.....	23	.....	174	.....	8
13,148	5,227	22,546	.....	48	3,012	10,433	14,348	90,782	66,001	1,351	1,350	.....	.....	1	191	9
10,340	2,420	59,960	410	1,400	2,780	137,451	2,678	215,202	75,073	389	125	.....	.....	264	125	10
.....	.....	4,695	.....	300	431	12,800	508	22,936	9,628	33	.....	.....	.....	33	.....	11
8,996	1,680	18,653	.....	1,020	1,327	94,145	1,175	147,018	51,698	93	.....	40	.....	53	.....	12
.....	.....	12,458	.....	1,504	880	23,186	1,116	59,211	34,909	14	.....	.....	.....	14	.....	13
180	2,080	9,094	.....	1,311	212	21,427	77	51,894	30,300	7	.....	6	.....	1	.....	14
40,436	33,870	127,007	6,479	18,914	5,168	126,535	5,474	447,004	314,995	204	.....	.....	.....	204	.....	15
61,066	63,747	127,369	24,073	20,237	7,498	209,019	5,788	811,444	596,637	295	.....	.....	.....	295	.....	16
.....	.....	6,267	.....	206	2,096	14,415	157	29,775	15,203	.....	.....	.....	.....	.....	.....	17
95,841	205,265	658,734	2,174	25,212	18,483	12,081,017	103,383	14,458,096	2,273,696	4,224	3,451	125	.....	648	1,380	18

Hand stamps.....	1	Oil, cottonseed, and cake.....	3	Roofing materials, other than metal..	2	Soap.....	1
Hardware.....	1	Paints.....	1	Saddlery and harness.....	2	Structural ironwork, not made in steel works or rolling mills.....	1
Jewelry.....	1	Perfumery and cosmetics.....	3	Shirts.....	1	Wirework, barbed wire.....	1
Mirrors, framed and unframed.....	1	Petroleum, refining.....	1	Signs, other than electric.....	1		
Models and patterns, not including paper patterns.....	1	Photo-engraving.....	2	Slaughtering and meat packing.....	1		

## CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

\$28,826	\$44,364	\$234,605	.....	\$4,492	\$11,486	\$1,231,861	\$44,777	\$1,719,676	\$443,038	1,633	1,313	62	2	256	40	1
33,366	44,949	175,489	.....	11,166	14,753	1,998,703	49,749	2,610,533	562,081	1,715	1,247	102	.....	366	125	2
25,038	19,672	115,738	.....	6,014	9,074	547,008	15,976	853,485	290,501	1,211	970	5	.....	236	20	3
26,536	14,249	101,126	280	5,898	9,771	272,682	24,918	573,511	275,911	1,111	964	16	.....	131	.....	4
88,253	83,880	560,181	4,106	22,862	38,987	1,505,562	67,630	2,754,811	1,181,619	2,220	1,162	159	.....	899	.....	5
21,460	17,314	227,795	725	6,289	4,420	219,385	15,188	604,457	369,884	670	579	13	.....	78	.....	6
57,952	34,312	533,011	950	9,341	11,880	1,760,787	46,755	2,597,965	790,423	2,059	1,243	10	.....	806	4	7
111,884	131,316	684,129	5,936	30,236	24,776	2,112,684	56,896	3,868,326	1,698,746	3,030	1,546	327	.....	1,157	130	8

<sup>3</sup> Same number reported throughout the year.<sup>4</sup> Same number reported for one or more other months.

DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS

SAM. L. ROGERS, DIRECTOR

CENSUS OF MANUFACTURES: 1914

OREGON

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

CONTENTS

	Page		Page
Explanation of terms.....	2	General statistics—Continued.	
General statistics.....	3	Engines and power.....	14
General character of the state.....	3	Fuel.....	14
Importance and growth of manufactures.....	3	Special statistics.....	15
Lumber and timber products.....	5	Flour-mill and gristmill products.....	15
Flour-mill and gristmill products.....	5	Slaughtering and meat packing.....	15
Slaughtering and meat packing.....	5	Butter, cheese, and condensed milk.....	15
Butter, cheese, and condensed milk.....	5	Printing and publishing.....	16
Printing and publishing.....	5	Canning and preserving.....	16
Canning and preserving.....	5	Laundries.....	16
Persons engaged in the manufacturing industries.....	5	General tables:	
Wage earners employed, by months.....	7	TABLE 28.—Comparative summary for 1914, 1909, and 1904.....	16
Prevailing hours of labor.....	8	TABLE 29.—Detail statement for the state and for cities of 50,000	
Location of establishments.....	9	inhabitants or more, by industries, and for cities of 10,000 to	
Character of ownership.....	9	50,000 inhabitants: 1914.....	20
Size of establishments.....	10		



WASHINGTON  
GOVERNMENT PRINTING OFFICE

1917

## EXPLANATION OF TERMS.

**Scope of census.**—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention should be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or whose products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

**Period covered.**—The returns relate to the calendar year 1914, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

**The establishment.**—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment.

**Classification by industries.**—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

As a rule, the same designation is used for the industry wherever it appears, although all of the products indicated by this designation were not manufactured in the state or city for which these statistics are presented. In some instances the wording is changed so as to more correctly describe the products represented. For a number of industries subclasses are shown which indicate more definitely the kind of products.

**Selected industries.**—The general tables at the end of this bulletin give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

**Comparisons with previous censuses.**—Owing to changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. At the census of 1909 the figures for kindred industries were combined. This practice, as a rule, has been followed in compiling the statistics of 1914 when placed in comparison with those for 1909 and prior years. The comparative summary for 1914, 1909, and 1904, therefore, does not show separately all the industries given for 1914 in the detailed statement for the state.

**Influence of increased prices.**—In comparing figures for cost of materials, value of products, and value added by manufacture in 1914 and 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

**Persons engaged in the industry.**—The following general classes of persons engaged in the manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. In comparative tables covering the census of 1904 it is of course necessary to group the figures according to the classification that was employed at the earlier censuses.

The number of persons engaged in each industry, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date was not a representative day an earlier date was chosen.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained approximates the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined for any state, because, in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation. This total, however, is shown for the different cities, because the limited area and greater regularity of employment largely overcame the objection incident to its publication for the separate states or the United States.

(2)

In particular, totals by sex and age for the wage earners reported for the representative day for all industries combined would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for a given state as a whole, the per cent distribution by sex and age of the wage earners in each industry for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year in that industry to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added to give the average distribution for each state as a whole and for the entire country.

**Salaries and wages.**—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and represent the approximate number who would be required to perform the work in any industry if all were continuously employed during the year, whereas the actual number to whom the total wages were paid would be larger.

**Prevailing hours of labor.**—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

**Capital.**—The instructions on the schedule for securing data relating to capital were as follows:

"The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises."

These instructions were identical with those employed at the census of 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating very general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

**Materials.**—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

**Rent and taxes.**—The taxes include internal revenue, corporation income tax, and state, county, and local taxes. In some instances the amount of the corporation tax for 1914 had not been ascertained when the report was prepared and the amount paid for 1913 was therefore given.

**Value of products.**—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

**Value added by manufacture.**—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

**Cost of manufacture and profits.**—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of interest or depreciation, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

**Primary horsepower.**—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use, since in most cases an engine or motor is not required to deliver continuously its full rated horsepower.

**Fuel.**—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.

# OREGON.

By EDWIN CARLSON.

## GENERAL STATISTICS.

**General character of the state.**—Oregon was admitted to the Union in 1859. With a gross area of 96,699 square miles, of which 95,607 represent land surface, it ranks ninth in size among the states. In 1914 there were in Oregon 24,953 square miles in unappropriated and unreserved public lands of the United States, 24,345 square miles in national forests, and 1,889 square miles in Indian reservations. At the census of 1900 the population of the state was 413,536; at the census of 1910, 672,765; and its estimated population in 1914 was 783,000. In total population Oregon ranked thirty-fifth among the states in 1910, and in density of population it ranked forty-first, with seven inhabitants per square mile, the corresponding number in 1900 being 4.3.

The urban population in 1910—that is, the population residing in incorporated places of 2,500 inhabitants or more—was 307,060, or 45.6 per cent of the total, as against 32.2 per cent in 1900. There were in Oregon in 1914 five cities—Astoria, Eugene, Medford, Portland, and Salem—each having an estimated population of more than 10,000. These cities, whose aggregate population formed 40 per cent of the total estimated population of the state in that year, reported 58.4 per cent of the value of its manufactured products. Portland alone, which is estimated to have contained 33.3 per cent of the population of Oregon in 1914, reported 50.7 per cent of the value of the state's manufactured products.

The steam-railway mileage in 1914 was 2,912, and the electric-railway mileage in 1912 was 464. The Columbia River, with its tributaries and canal connections, provides important transportation facilities for the northwestern part of the state.

Agriculture is the leading industry. The value of all farm crops grown in 1909 amounted to \$49,040,725, and the value of domestic animals sold or slaughtered on farms during the same year was \$17,433,774.

**Importance and growth of manufactures.**—Oregon's manufactured products in 1914 were valued at \$109,761,951, and the average number of wage earners employed in its manufacturing industries was 28,829. In that year and also in 1909 the state ranked thirty-third in the former respect and thirty-fifth in the latter. The output of manufactured products in Oregon in 1914 represented five-tenths of 1 per cent of the total for the United States, as measured by value; the corresponding proportion for both 1909 and 1904 was four-tenths of 1 per cent.

Table 1 summarizes the more important data relative to all classes of manufactures combined for the censuses of 1914, 1909, 1904, and 1899, and gives the percentages of increase from census to census.

With the exception of proprietors and firm members which show a small decrease for the period 1909–1914 there is an increase for each successive census in all items, the per cent of increase, however, being greater for the five-year period 1904–1909.

	MANUFACTURING INDUSTRIES.				PER CENT OF INCREASE. <sup>1</sup>		
	1914	1909	1904	1899	1909–1914	1904–1909	1899–1904
Number of establishments.....	2,320	2,246	1,602	1,406	3.3	40.2	13.9
Persons engaged.....	35,449	34,722	22,018	( <sup>2</sup> )	2.1	57.7	.....
Proprietors and firm members.....	2,189	2,499	1,726	( <sup>2</sup> )	-12.4	44.8	.....
Salaried employees.....	4,431	3,473	1,769	1,143	27.6	96.3	54.8
Wage earners (average number).....	28,829	28,750	18,523	14,459	0.3	55.2	28.1
Primary horsepower.....	219,222	175,019	81,348	60,005	25.3	115.1	35.6
Capital.....	\$139,500,379	\$89,081,873	\$44,023,548	\$28,359,089	56.6	102.4	55.2
Salaries and wages.....	26,614,328	23,940,428	13,576,026	8,044,171	11.1	76.4	68.8
Salaries.....	5,682,751	4,047,494	2,132,514	1,222,160	40.4	89.8	74.5
Wages.....	20,931,577	19,901,934	11,443,512	6,822,011	5.2	73.9	67.7
Paid for contract work.....	725,562	576,699	459,571	( <sup>2</sup> )	25.8	25.5	.....
Rent and taxes (including internal revenue).....	2,125,047	1,418,564	3,688,506	( <sup>2</sup> )	50.5	.....	.....
Cost of materials.....	63,237,821	50,552,470	30,596,763	20,788,833	25.1	65.2	47.2
Value of products.....	109,761,951	93,004,845	55,525,123	36,592,714	18.0	67.5	51.7
Value added by manufacture (value of products less cost of materials).....	46,504,130	42,452,375	24,928,360	15,803,881	9.5	70.3	57.7

<sup>1</sup> A minus sign (–) denotes decrease.

<sup>2</sup> Figures not available.

<sup>3</sup> Exclusive of internal revenue.

Table 2 shows the relative importance of the leading manufacturing industries in 1914 and gives percent-

ages of increase for the three five-year periods from 1899 to 1914.

## MANUFACTURES—OREGON.

Table 2

INDUSTRY.	CENSUS OF 1914.								PER CENT OF INCREASE. <sup>1</sup>								
	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.			
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	
All industries.....	2,320	28,829	100.0	\$109,761,951	100.0	\$46,504,130	100.0	0.3	55.2	28.1	18.0	67.5	51.7	9.5	70.3	57.7	
Lumber and timber products.....	526	13,888	48.2	30,920,407	28.2	16,521,419	35.5	-7.8	76.0	41.3	2.4	95.9	39.1	7.1	86.0	62.3	
Flour-mill and gristmill products.....	95	450	1.6	11,192,373	10.2	1,365,342	2.9	14.2	-0.3	-6.0	25.9	5.0	38.0	11.5	9.7	16.7	
Slaughtering and meat packing.....	14	442	1.5	7,436,920	6.8	1,234,465	2.8	20.8	48.8	43.0	27.3	102.3	77.5	48.6	67.3	85.3	
Butter, cheese, and condensed milk.....	118	434	1.5	6,567,949	6.0	1,065,647	2.3	3.3			33.5			10.1			
Printing and publishing.....	377	1,556	5.4	6,010,857	5.5	4,448,350	9.6	6.6	43.3	21.2	19.2	81.6	85.8	13.0	85.9	89.1	
Canning and preserving.....	71	799	2.8	4,738,067	4.3	1,647,647	3.5	20.9	25.0	-33.1	47.7	10.2	46.0	61.6	0.3	46.1	
Foundry and machine-shop products.....	169	1,254	4.3	3,822,590	3.5	2,206,966	4.7	18.9	34.1	96.3	21.9	97.4	87.3	32.9	76.0	81.7	
Bread and other bakery products.....	163	700	2.4	3,325,789	3.0	1,446,261	3.1	14.2	42.6	77.0	17.6	88.1	93.1	19.7	92.0	100.3	
Copper, tin, and sheet-iron products.....	62	466	1.6	2,674,524	2.4	1,017,800	2.2	8.1			66.0			31.2			
Cars and general shop construction and repairs by steam-railroad companies.....	14	1,601	5.6	2,583,653	2.4	1,564,346	3.4	106.0	-16.5	23.8	122.2	-8.1	23.3	139.1	-25.6	62.2	
Coffee, roasting and grinding.....	9	99	0.3	2,049,844	1.9	517,724	1.1				43.7	76.0		55.6	112.1		
Liquors, malt.....	10	189	0.6	1,810,440	1.6	1,302,267	2.8	-7.4	35.1	11.0	-2.5	66.1	56.6	-7.2	103.6	27.4	
Woolen goods.....	7	648	2.3	1,701,587	1.6	758,601	1.6	38.2	-17.1	-15.8	83.2	-10.2	15.1	88.8	-25.3	24.5	
Confectionery.....	26	336	1.2	1,580,735	1.4	768,448	1.7	18.7	112.8	24.3	30.1	220.6	81.3	15.3	179.8	110.6	
Gas, illuminating and heating.....	9	385	1.3	1,528,060	1.4	1,124,032	2.4	48.1			68.1	98.9		58.5	90.1		
Furniture.....	21	673	2.3	1,335,380	1.2	791,182	1.7	21.9	29.9	114.6	22.0	38.5	164.2	29.7	35.0	232.4	
Leather goods.....	48	202	0.7	1,075,016	1.0	402,477	0.9	-42.8	30.7	4.7	-34.0	76.1	42.3	37.2	67.1	46.7	
Food preparations, not elsewhere specified.....	18	79	0.3	877,544	0.8	252,780	0.5				51.4	63.4		11.0	105.4		
Cars and general shop construction and repairs by electric-railroad companies.....	4	225	0.8	536,237	0.5	231,733	0.5										
Brick and tile, terra-cotta, and other clay products.....	42	382	1.3	521,368	0.5	355,992	0.8	-0.8	45.8	20.0	-22.8	114.3	38.8	-31.5	106.3	32.6	
Awnings, tents and sails.....	5	84	0.3	492,871	0.4	305,268	0.7				7.3	272.2		109.8	333.1		
Confectionery (ice cream).....	9	66	0.2	445,159	0.4	167,936	0.4										
Tobacco, cigars.....	63	154	0.5	383,048	0.3	234,864	0.5	-17.7	14.7	129.6	-19.2	19.7	171.2	-22.4	39.6	152.3	
Ice, manufactured.....	27	106	0.4	375,607	0.3	257,273	0.6				46.3	18.4	87.1	42.0	2.8	81.4	
Marble and stone work.....	24	88	0.3	346,127	0.3	200,033	0.4				16.5			8.7			
Shipbuilding, including boat building.....	20	162	0.6	332,074	0.3	217,626	0.5	-23.1	25.4		-30.4	60.6		-20.1	56.9		
Stoves, hot-air furnaces, and ranges.....	10	80	0.3	289,037	0.3	159,769	0.3				-17.7	152.5		-27.6	85.7		
All other industries.....	359	3,280	11.4	14,758,488	13.5	5,887,892	12.7										

<sup>1</sup> Percentages are based on figures in Table 29; a minus sign (-) denotes decrease; percentages are omitted where base is less than 100, or when comparable figures can not be given.

Separate statistics are presented for 27 industries, or industry groups, for each of which products valued at more than \$250,000 were reported for 1914. These industries include 1 with products exceeding \$30,000,000, and 1 exceeding \$10,000,000, 3 with products between \$5,000,000 and \$10,000,000, 12 with products between \$1,000,000 and \$5,000,000, and 10 with products valued at less than \$1,000,000. Among those included under the head of "all other industries" are the following which have products in excess of those shown in the table, but for which statistics can not be shown separately without the possibility of disclosing the operations of individual establishments: Bags, other than paper; boots and shoes, including cut stock and findings; clothing, men's, including shirts; cordage and twine; oil, linseed; paper and wood pulp; soap; wood preserving; and wool pulling.

The industries in this table are arranged in the order of their importance as shown by value of products, but the arrangement would vary considerably from that given if based on average number of wage earners or value added by manufacture. Lumber and timber products is the only industry which ranked alike in all three respects. Among the industries showing the greatest differences in rank when based on each of the three factors shown in the table are flour-mill and

gristmill products, which is second in value of products, seventh in value added by manufacture, and tenth in the number of wage earners; slaughtering and meat packing, third in value of products, was ninth in value added by manufacture and eleventh in number of wage earners; butter, cheese, and condensed milk, fourth in value of products, was eleventh in value added by manufacture and twelfth in number of wage earners; printing and publishing, fifth in value of products, was second in value added by manufacture and third in number of wage earners.

In rank according to value of products, there were a few changes in 1914 as compared with 1909. Of the more important industries shown in the table, lumber and timber products, flour-mill and gristmill products, slaughtering and meat packing, canning and preserving, foundry and machine-shop products, and bread and other bakery products held the same rank in value of products at both censuses. Butter, cheese, and condensed milk advanced from fifth place in 1909 to fourth in 1914, having exchanged positions with printing and publishing. Liquors, malt, and leather goods, ranking ninth and tenth in 1909, dropped to twelfth and seventeenth, respectively, in 1914. Copper, tin, and sheet-iron products and cars and general shop construction and repairs by steam-railroad companies,



ranking ninth and tenth in 1914, were eleventh and thirteenth in 1909. For the remainder of the industries slight changes from census to census are noticeable.

*Lumber and timber products.*—This industry, embracing logging camps, sawmills, planing mills, wooden-box factories, and the manufacture of window and door screens, is by far the most important industry in the state, not only as to value of products but also in number of wage earners employed. During the period from 1909 to 1914 while the number of establishments decreased 187 and the number of wage earners 1,178, the value of products increased \$720,550, which is probably due to the advance in price of lumber and commodities. The decrease in the number of establishments and of wage earners is due in part to the fact that during the period between the censuses some of the smaller mills were merged with the larger plants or discontinued operations.

*Flour-mill and gristmill products.*—This industry, second in importance in the state, as measured by value of products, excludes custom mills grinding exclusively for tolls or local consumption. There was a slight decrease from 1909 to 1914 in the number of establishments, which is probably due to a greater centralization of the industry, causing the abandonment of some small local gristmills. During the five-year period, however, the value of products increased \$2,301,572, or 25.9 per cent; the value added by manufacture, 11.5 per cent, and the number of wage earners, 14.2 per cent.

In considering the statistics for the lumber mills and gristmills it should be remembered that mills engaged exclusively in custom sawing and grinding for consumption in the immediate neighborhood should not be included in the census of manufactures, but it is not always possible to conduct the enumeration in regard to these establishments on uniform lines in all sections of the country at different censuses.

*Slaughtering and meat packing.*—This industry, which is third in importance in value of products, does not include the operations of retail butcher shops. The value of products increased \$1,607,305, or 27.3 per cent, the value added by manufacture, \$419,696, or 48.6 per cent, and the average number of wage earners, 20.8 per cent.

*Butter, cheese, and condensed milk.*—Fourth in importance in value of products in the state, this industry showed a marked increase from 1909 to 1914. During the five-year period the value of products increased \$1,647,487, or 33.5 per cent, and the number of establishments, 24.2 per cent.

*Printing and publishing.*—This industry includes job printing; the printing and publishing of books, newspapers, and periodicals; bookbinding and blank-book making; engraving, steel and copper plate, including plate printing; and lithographing. Measured by value of products this industry ranked fourth in

1909, but dropped to fifth place in 1914. Notwithstanding its change in rank during the five-year period 1909-1914, the industry shows increases in all items. The value of products increased 19.2 per cent, the value added by manufacture, 13 per cent, and the number of establishments, 16.4 per cent.

*Canning and preserving.*—In value of products this industry ranked sixth at the last two censuses, and includes canning and preserving fruits and vegetables, fish and oysters, and the manufacture of pickles, preserves, and sauces. The increase in value of products for 1909-1914 was \$1,531,007, or 47.7 per cent; that of value added by manufacture, \$628,019, or 61.6 per cent; and that of average number of wage earners, 138, or 20.9 per cent.

**Persons engaged in the manufacturing industries.**—Table 3 shows, for 1909 and 1914, the number of persons engaged in manufactures, distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

CLASS.	Census year.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.				
		Total.	Male.	Female.	Per cent of total. <sup>1</sup>	
					Male.	Female.
All classes.....	1914	35,449	32,625	2,824	92.0	8.0
	1909	34,722	31,849	2,873	91.7	8.3
Proprietors and officials.....	1914	3,630	3,545	85	97.7	2.3
	1909	3,719	3,667	52	98.6	1.4
Proprietors and firm members..	1914	2,189	2,117	72	96.7	3.3
	1909	2,499	2,453	46	98.2	1.8
Salaried officers of corporations..	1914	537	527	10	98.1	1.9
	1909	344	340	4	98.8	1.2
Superintendents and managers..	1914	904	901	3	99.7	0.3
	1909	876	874	2	99.8	0.2
Clerks and other subordinate salaried employees.	1914	2,990	2,315	675	77.4	22.6
	1909	2,253	1,702	551	75.5	24.5
Wage earners (average number)....	1914	28,829	26,765	2,064	92.8	7.2
	1909	28,750	26,480	2,270	92.1	7.9
16 years of age and over.....	1914	28,742	26,728	2,014	93.0	7.0
	1909	28,652	26,406	2,246	92.2	7.8
Under 16 years of age.....	1914	87	37	50	.....	.....
	1909	98	74	24	.....	.....

<sup>1</sup> Percentages are omitted where base is less than 100.

In 1914 the number of persons engaged in manufactures was 35,449, of whom 28,829, or about eight-tenths, were wage earners, 3,630 were proprietors and officials, and 2,990 were clerks and other subordinate salaried employees. Of the wage earners 16 years of age and over, 26,728, or 93 per cent, were males, and 2,014, or 7 per cent, were females. Figures for individual industries will be found in Table 29.

Table 4 gives, for the several classes of persons engaged in manufactures, the percentage of increase from 1909 to 1914 and the per cent distribution at the two censuses.

As shown by the table, there was a slight increase during the five-year period in the total of all classes

## MANUFACTURES—OREGON.

and decreases in the number of "proprietors and officials," and in the subclass "proprietors and firm members." The largest percentage of increase for any class, 56.1, is shown for salaried officers of corpora-

tions. Wage earners 16 years of age and over represented 81.1 per cent of the total number of persons engaged in manufacturing industries in the state in 1914 and 82.5 per cent in 1909.

Table 4

Table 4	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.									
	CLASS.	Per cent of increase, <sup>1</sup> 1909-1914.			Per cent distribution.					
		Total.	Male.	Female.	Total.		Male.		Female.	
					1914	1909	1914	1909	1914	1909
All classes.....	2.1	2.4	-1.7	100.0	100.0	100.0	100.0	100.0	100.0	
Proprietors and officials.....	-2.4	-3.3	.....	10.2	10.7	10.9	11.5	3.0	1.8	
Proprietors and firm members.....	-12.4	-13.7	.....	6.2	7.2	6.5	7.7	2.5	1.6	
Salaried officers of corporations.....	56.1	55.0	.....	1.5	1.0	1.6	1.1	0.4	0.1	
Superintendents and managers.....	3.2	3.1	.....	2.5	2.5	2.8	2.7	0.1	0.1	
Clerks and other subordinate salaried employees.....	32.7	36.0	22.5	8.4	6.5	7.1	5.3	23.9	19.2	
Wage earners (average number).....	0.3	1.1	-9.1	81.3	82.8	82.0	83.1	73.1	79.0	
16 years of age and over.....	0.3	1.2	-10.3	81.1	82.5	81.9	82.9	71.3	78.2	
Under 16 years of age.....	.....	.....	.....	0.2	0.3	0.1	0.2	1.8	0.8	

<sup>1</sup> A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.

In order to compare the distribution of persons engaged in manufactures in 1914 with that shown at the census of 1904 it is necessary to use the classification employed at the earlier census. (See "Explanation of terms.") Table 5 makes this comparison according to occupational status.

Table 5

CLASS.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.							
	Number.			Per cent distribution.			Per cent of increase. <sup>1</sup>	
	1914	1909	1904	1914	1909	1904	1909-1914	1904-1909
Total.....	35,449	34,722	22,018	100.0	100.0	100.0	2.1	57.7
Proprietors and firm members.....	2,189	2,499	1,726	6.2	7.2	7.8	-12.4	44.8
Salaried employees.....	4,431	3,473	1,769	12.5	10.0	8.0	-27.6	96.3
Wage earners (average).....	28,829	28,750	18,523	81.3	82.8	84.1	0.3	55.2

<sup>1</sup> A minus sign (-) denotes decrease.

During the decade ending with 1914 there was a substantial increase in the number of persons engaged in the manufactures of the state, but the rate of increase was most rapid during the first five-year period. The decrease of 12.4 per cent in the number of proprietors and firm members for the period from 1909 to 1914 was due to the decrease in the number of small mills and also to the fact that some establishments operated by individuals or firms in 1909 became incorporated during the period between the censuses and were reported as corporations in 1914. It is probable that some of the persons reported as proprietors or firm members of such establishments in 1909 were returned as salaried officials of corporations in 1914.

The average number of wage earners employed and their per cent distribution as males 16 years of age and over, females 16 years of age and over, and children under 16 years of age are given in Table 6, for 1914, 1909, and 1904. This table also shows, for some of the important industries separately, a similar distribution of wage earners, for 1914 and 1909.

Table 6

INDUSTRY.	Census year.	WAGE EARNERS.			
		Average number. <sup>1</sup>	Per cent of total.		
			16 years of age and over.		Under 16 years of age.
			Male.	Female.	
All industries.....	1914	28,829	92.7	7.0	0.3
	1909	28,750	91.8	7.8	0.4
	1904	18,523	90.9	8.0	1.1
Bread and other bakery products.....	1914	700	74.8	24.6	0.6
	1909	613	71.1	28.5	0.3
Brick and tile, terra-cotta, and other clay products.....	1914	382	100.0	.....	.....
	1909	385	99.2	.....	0.8
Butter, cheese, and condensed milk.....	1914	434	92.6	6.9	0.5
	1909	420	91.4	7.6	1.0
Canning and preserving.....	1914	799	56.6	41.9	1.5
	1909	661	59.6	36.9	3.5
Cars and general shop construction and repairs by steam-railroad companies.....	1914	1,601	99.9	.....	0.1
	1909	777	100.0	.....	.....
Confectionery.....	1914	336	30.9	68.5	0.6
	1909	283	32.2	67.8	.....
Copper, tin, and sheet-iron products.....	1914	466	98.3	1.7	.....
	1909	431	92.3	7.7	.....
Flour-mill and gristmill products.....	1914	450	100.0	.....	.....
	1909	394	99.7	0.3	.....
Foundry and machine-shop products.....	1914	1,254	99.9	.....	0.1
	1909	1,055	100.0	.....	.....
Furniture.....	1914	673	99.1	0.9	.....
	1909	552	98.7	1.3	.....
Gas, illuminating and heating.....	1914	385	100.0	.....	.....
	1909	260	100.0	.....	.....
Leather goods.....	1914	202	97.5	2.5	.....
	1909	353	96.6	3.4	.....
Liquors, malt.....	1914	189	100.0	.....	.....
	1909	204	100.0	.....	.....
Lumber and timber products.....	1914	13,888	99.5	0.4	0.1
	1909	15,006	99.6	0.3	0.1
Printing and publishing.....	1914	1,556	84.5	14.3	1.2
	1909	1,459	83.7	14.3	2.0
Shipbuilding, including boat building.....	1914	163	100.0	.....	.....
	1909	212	100.0	.....	.....
Slaughtering and meat packing.....	1914	442	96.4	3.6	.....
	1909	366	99.2	0.8	.....
Tobacco, cigars.....	1914	154	85.1	13.0	1.9
	1909	186	85.5	12.9	1.6
Woolen goods.....	1914	648	61.4	37.7	0.9
	1909	466	59.2	37.4	3.4
All other industries.....	1914	4,107	83.0	16.3	0.7
	1909	4,607	78.7	21.1	0.2

<sup>1</sup> For method of estimating the distribution, by sex and age periods, of the average number for all industries combined, see "Explanation of terms."

For all industries combined, the proportion of male wage earners 16 years of age and over has been slightly greater at each successive census, while the proportion of females 16 years of age and over and children under 16 years of age has decreased. Men predominate in all the industries shown in the table except confectionery. For six of the industries no females were reported at either 1914 or 1909.

**Wage earners employed, by months.**—The following table gives, for all industries combined, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

The table shows that the period of greatest activity in employment in the manufactures of the state ranges from April to October. In 1914 the maximum number of wage earners appeared for May and the minimum for December. In 1909 the maximum month was September and the minimum January, and in 1904 the maximum number was employed in July and the minimum in February. The greatest actual difference between the maximum and minimum numbers employed

in any one of the three census years was 7,624, or 24.6 per cent of the maximum, in 1909.

**Table 7**

MONTH.	WAGE EARNERS IN MANUFACTURING INDUSTRIES.					
	Number. <sup>1</sup>			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
January.....	26,154	23,354	15,930	82.8	75.4	77.0
February.....	26,715	24,833	15,867	84.6	80.2	76.7
March.....	28,527	26,859	16,693	90.3	86.7	80.7
April.....	30,806	29,179	18,607	97.5	94.2	89.9
May.....	31,596	30,302	19,679	100.0	97.8	95.1
June.....	31,540	30,806	20,543	99.8	99.4	99.3
July.....	31,095	30,175	20,687	98.4	97.4	100.0
August.....	30,505	30,269	20,356	96.6	97.7	98.4
September.....	29,243	30,978	20,425	92.6	100.0	98.7
October.....	28,421	30,402	18,981	90.0	98.1	91.8
November.....	26,531	29,423	17,711	84.0	95.0	85.6
December.....	24,815	28,416	16,797	78.5	91.7	81.2

<sup>1</sup> The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

Table 8 gives the total average number of wage earners employed during 1914, together with the total number employed on the 15th of each month, or the nearest representative day, for the combined industries of the state, for a number of selected industries, and for the total industries of each of the five cities having more than 10,000 inhabitants.

**Table 8**

[Month of maximum employment for each industry is indicated by boldface figures and that of minimum by <i>italic</i> figures.]														
INDUSTRY AND CITY.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	28,829	26,154	26,715	28,527	30,806	31,596	31,540	31,095	30,505	29,243	28,421	26,531	<i>24,815</i>	78.5
Bread and other bakery products.....	700	703	702	702	700	699	711	720	711	700	710	670	672	93.1
Brick and tile, terra-cotta, and other clay products.....	382	243	205	262	437	535	531	606	604	441	345	200	175	28.9
Butter, cheese, and condensed milk.....	434	<i>354</i>	357	394	482	519	531	511	471	428	398	386	377	66.7
Canning and preserving.....	799	350	417	<i>246</i>	315	497	1,191	1,255	1,128	1,380	1,495	894	420	16.5
Cars and general shop construction and repairs by steam-railroad companies.....	1,601	1,620	1,404	<i>1,408</i>	1,618	1,616	1,563	1,702	<b>1,724</b>	1,701	1,680	1,598	1,583	81.4
Confectionery.....	336	330	308	320	343	351	353	326	<i>298</i>	351	<b>367</b>	353	332	81.2
Copper, tin, and sheet-iron products.....	466	367	420	471	461	507	508	638	564	484	445	381	<i>346</i>	54.2
Flour-mill and gristmill products.....	450	477	426	413	<i>366</i>	395	374	414	447	<b>539</b>	538	518	493	67.9
Foundry and machine-shop products.....	1,254	1,184	1,319	1,357	1,342	1,201	1,204	1,194	1,168	1,088	<i>1,063</i>	1,424	<b>1,504</b>	70.7
Furniture.....	673	<b>723</b>	711	695	683	667	668	625	<i>614</i>	656	683	684	667	84.9
Gas, illuminating and heating.....	385	360	396	413	<b>503</b>	468	421	376	<i>306</i>	357	338	325	357	60.8
Leather goods.....	202	202	201	209	215	212	214	213	201	190	188	192	187	87.0
Liquors, malt.....	189	171	<i>170</i>	181	190	201	208	208	206	200	187	172	174	81.7
Lumber and timber products.....	13,888	11,792	12,482	14,105	15,727	<b>16,317</b>	15,951	15,395	15,265	13,972	13,005	11,835	<i>10,810</i>	66.2
Printing and publishing.....	1,556	1,547	1,539	1,548	1,566	1,564	1,531	<i>1,528</i>	1,584	1,552	1,579	1,567	1,567	96.5
Shipbuilding, including boat building.....	163	162	208	223	196	208	165	155	146	126	121	140	<i>106</i>	47.5
Slaughtering and meat packing.....	442	465	436	430	428	<i>400</i>	411	427	438	441	465	465	498	80.3
Tobacco, cigars.....	154	161	160	148	146	146	155	154	164	154	159	160	<i>141</i>	86.0
Woolen goods.....	648	705	691	694	712	707	651	641	572	<i>567</i>	628	616	598	78.8
All other industries.....	4,107	4,238	4,163	4,313	4,376	<b>4,386</b>	4,199	4,007	3,894	3,922	4,027	3,951	<i>3,808</i>	86.8
Total for cities.....	13,474	13,031	12,916	13,050	13,682	13,713	14,227	<b>14,363</b>	13,786	13,583	13,480	13,242	<i>12,615</i>	87.8
ASTORIA.....	1,172	1,056	1,062	1,133	1,206	1,269	1,286	<b>1,353</b>	1,285	1,222	1,096	1,103	<i>998</i>	73.4
EUGENE.....	238	228	230	238	249	242	244	268	270	232	219	<i>215</i>	221	79.6
MEDFORD.....	59	50	51	52	56	69	51	71	69	70	66	54	<i>49</i>	69.0
PORTLAND.....	11,273	10,998	10,893	11,064	11,615	11,545	11,731	<b>11,936</b>	11,386	11,243	11,172	11,068	<i>10,655</i>	89.3
SALEM.....	732	699	710	563	<i>556</i>	588	915	735	776	816	927	802	697	60.0

Of the selected industries, canning and preserving shows the greatest degree of fluctuation in the number of wage earners employed each month, the number in March being but 16.5 per cent of the number in October. The greatest stability of employ-

ment is shown for printing and publishing, for which industry the proportion the minimum number formed of the maximum was 96.5 per cent. Of the five cities, the greatest variation in numbers employed appears for Salem, for which the minimum number

## MANUFACTURES—OREGON.

is 60 per cent of the maximum, while Portland shows the least variation, the minimum number forming 89.3 per cent of the maximum.

**Prevailing hours of labor.**—In Table 9 the average number of wage earners reported, for 1914 and 1909, for all industries combined and for selected industries throughout the state, have been classified according

to number of hours of labor per week prevailing in the establishments in which they were employed. A similar classification is given, for 1914 only, for all industries combined, in each city having more than 10,000 inhabitants. The number employed in each establishment is classified as a total, even though a few employees worked a greater or a smaller number of hours.

Table 9

## AVERAGE NUMBER OF WAGE EARNERS.

INDUSTRY AND CITY.	Census year.	In establishments where the prevailing hours of labor per week were—							
		Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.
All industries.....	1914	28,829	3,979	775	6,917	1,324	14,839	528	420
	1909	28,750	3,396	762	3,880	1,030	17,801	1,485	194
Bread and other bakery products.....	1914	700	61	191	314	16	101	15	2
	1909	613	50	31	108	221	161	32	6
Brick and tile, terra-cotta, and other clay products.....	1914	382	59	7	154	2	160		
	1909	385	43		96	8	238		
Butter, cheese, and condensed milk.....	1914	434	21	7	81	38	88	198	1
	1909	420	34	12	72	36	96	168	2
Canning and preserving.....	1914	799	59	32	477	23	141	64	3
	1909	661	15	28	134		280	172	31
Cars and general shop construction and repairs by steam-railroad companies.....	1914	1,601	56		1,414		30	101	
	1909	777	19		697		21	40	
Confectionery.....	1914	336	24	89	129	93	1		
	1909	283	19	75	24	127	37	1	
Copper, tin, and sheet-iron products.....	1914	466	183	4	279				
	1909	431	188	1	98	7	137		
Flour-mill and gristmill products.....	1914	450	50	3	14		383		
	1909	394	7		11		280	15	80
Foundry and machine-shop products.....	1914	1,254	150	15	968	12	41	66	2
	1909	1,055	36	122	802	17	78		
Furniture.....	1914	673	240		13	119	301		
	1909	552		36	9	8	499		
Gas, illuminating and heating.....	1914	385	350		19	8		1	7
	1909	260				248	1		11
Leather goods.....	1914	202	10	2	167	3	20		
	1909	353	10	4	281	7	51		
Liquors, malt.....	1914	189	176		9		4		
	1909	204	170		2	19	12	1	
Lumber and timber products.....	1914	13,888	167	42	1,113	313	12,253		
	1909	15,066	360	105	243	186	13,766	393	13
Printing and publishing.....	1914	1,556	1,365	48	128		13	2	
	1909	1,459	1,188	81	166	7	13	4	
Shipbuilding, including boat building.....	1914	163	154		8		1		
	1909	212	181	2	27		2		
Slaughtering and meat packing.....	1914	442	9	7	5	14	395	11	1
	1909	366					340	5	16
Tobacco, cigars.....	1914	154	149		5				
	1909	186	183	2			1		
Woolen goods.....	1914	648			25	226	397		
	1909	466					466		
All other industries.....	1914	4,107	696	328	1,595	457	510	70	415
	1909	4,607	893	263	1,110	139	1,382	654	102
Total for cities.....	1914	13,474	2,855	668	4,510	627	4,489	300	20
ASTORIA.....	1914	1,172	91		199	5	847	30	
EUGENE.....	1914	238	48	12	51	92	32	3	
MEDFORD.....	1914	59	22		21		4	12	
PORTLAND.....	1914	11,273	2,558	629	3,987	386	3,433	255	20
SALEM.....	1914	732	136	27	252	144	173		

The figures in this table, for the state as a whole and for most of the selected industries, emphasize the tendency toward a shortening of the working day of wage earners. In 1909, 19,682, or more than two-thirds of the total average number of wage earners for all in-

dustries combined, were employed in establishments where the prevailing hours of labor were 60 or more per week, while but 15,834, or about four-sevenths, were so employed in 1914. On the other hand, for all industries combined, the number of wage earners

whose working hours were less than 60 per week increased from 9,068 in 1909 to 12,995 in 1914, forming 31.5 and 45.1 per cent, respectively, of the total.

In 1914 the lumber and timber industry reported 48.2 per cent of the total average number of wage earners in the state, and 88.2 per cent of them were in establishments where the prevailing hours of labor were 60 per week; for the combined industries in the state 82.6 per cent were so employed. In the printing and publishing industry, the prevailing hours for 87.7 per cent of the wage earners were 48 or under.

In 1914 the combined total average number of wage earners for the five cities having a population of 10,000 or over was 13,474, and of this number 8,660, or about two-thirds, were in establishments where the prevailing hours were fewer than 60 per week, while only 325 were in establishments in which the hours were more than 60 per week.

**Location of establishments.**—Table 10 shows, for 1914, 1909, and 1899, the extent to which the manufactures in Oregon were centralized in the cities having more than 10,000 inhabitants.

Table 10

Table 10	Census year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 OR OVER.								DISTRICTS OUTSIDE OF CITIES HAVING A POPULATION OF 10,000 OR OVER.	
			Total.		10,000 to 25,000.		25,000 to 100,000.		100,000 and over.			
			Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.
Number of places.....	1914		5		4				1			
	1910		2		1				1			
	1900		1				1					
Population <sup>1</sup> .....	1914	783,239	313,577	40.0	52,976	6.8			260,601	33.3	469,662	60.0
	1910	672,765	221,308	32.9	14,094	2.1			207,214	30.8	451,457	67.1
	1900	413,536	90,426	21.9			90,426	21.9			323,110	78.1
Number of establishments.....	1914	2,320	1,016	43.8	179	7.7			837	36.1	1,304	56.2
	1909	2,246	711	31.7	62	2.8			649	28.9	1,535	68.3
	1899	1,406	408	29.0			408	29.0			998	71.0
Average number of wage earners.....	1914	28,829	13,474	46.7	2,201	7.6			11,273	39.1	15,355	53.3
	1909	28,750	12,811	44.6	597	2.1			12,214	42.5	15,939	55.4
	1899	14,459	5,380	37.2			5,380	37.2			9,079	62.8
Value of products.....	1914	\$109,761,951	\$64,123,954	58.4	\$8,426,514	7.7			\$55,697,440	50.7	\$45,637,997	41.6
	1909	93,004,845	49,068,798	52.8	2,208,031	2.4			46,860,767	50.4	43,936,047	47.2
	1899	36,592,714	16,903,707	46.2			\$16,903,707	46.2			19,689,007	53.8
Value added by manufacture.....	1914	46,504,130	25,466,346	54.8	3,667,559	7.9			21,798,787	46.9	21,037,784	45.2
	1909	42,452,375	21,815,981	51.4	1,030,830	2.4			20,785,151	49.0	20,636,394	48.6
	1899	15,803,881	6,726,379	42.6			6,726,379	42.6			9,077,502	57.4

<sup>1</sup> Census estimates of population for 1914.

In accepting the statistics in this table, it must be remembered that some of the cities—Astoria, Eugene, and Medford—that had a population of 10,000 and over at the census of 1914, were included with those for the outside districts at prior censuses. The table shows, however, that for 1914 the cities, which represented 40 per cent of the estimated population of the state, reported 58.4 per cent of the total value of products, 54.8 per cent of the total value added by manufacture, 46.7 per cent of the total average number of wage earners, and 43.8 per cent of the total number of establishments.

**Character of ownership.**—Table 12 presents statistics concerning character of ownership, or legal organization, of manufacturing enterprises. For all industries, combined, comparative figures are given for 1914, 1909, and 1904; for selected industries, statistics for 1914 and 1909 are shown; and for individual cities the figures are for all industries combined, and relate only to 1914. In order to avoid disclosing the operations of individual establishments, it is necessary to omit several important industries from this table.

This table shows, for all industries combined, an increase from 1909 to 1914 in the number of establishments under corporate and individual ownership, and a decrease in all other forms of ownership, which includes general and limited partnerships and cooperative associations. Although corporate ownership comprised in 1914 only 30.6 per cent of the total number of establishments in the state, they reported 83.2 per cent of the total value of products, and 83.4 per cent of the total average number of wage earners; in 1909 and 1904 the corresponding proportions were slightly less. The proportions of the total average number of wage earners and value of products reported by corporations have been greater at each successive census.

The number of establishments under individual ownership represented 45.8 per cent of the total number of establishments in the state in 1914, and all other forms of ownership, 23.6 per cent. The proportion of the total average number of wage earners and value of products under individual ownership have decreased at each successive census.

## MANUFACTURES—OREGON.

Table 11

Table 11	INDUSTRY AND CITY.	Cen- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
			Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Total.	In establishments owned by—			Per cent of total. <sup>1</sup>			Total.	Of establishments owned by—			Per cent of total.						
							Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Corpo- rations.	All others.	Indi- vid- uals.	Corpo- rations.	All oth- ers.				
All industries <sup>1</sup> .....	1914	1,032	710	548	28,829	2,678	24,047	2,104	9.3	83.4	7.3	\$109,761,951	\$9,860,214	\$91,351,338	\$8,550,399	9.0	83.2	7.8					
	1909	1,031	640	575	28,750	3,552	22,063	3,135	12.4	76.7	10.9	93,004,845	11,482,192	70,781,269	10,741,384	12.3	76.1	11.5					
	1904	746	409	447	18,523	2,919	13,037	2,507	15.8	70.4	13.8	55,525,123	8,414,059	40,034,288	7,076,776	15.2	72.1	12.7					
Bread and other bakery products.	1914	116	11	36	700	168	401	131	24.0	57.3	18.7	3,325,789	811,144	1,775,375	739,270	24.4	53.4	22.2					
	1909	110	7	34	613	173	329	111	28.2	53.7	18.1	2,829,428	923,641	1,315,510	590,277	32.6	46.5	20.9					
Butter, cheese, and condensed milk.	1914	37	36	45	434	49	288	97	11.3	66.4	22.3	6,567,949	853,620	3,825,075	1,889,254	13.0	58.2	28.8					
	1909	29	34	32	420	53	306	61	12.6	72.9	14.5	4,920,462	928,188	2,761,391	1,230,883	18.9	56.1	25.0					
Canning and preserving...	1914	18	42	11	799	70	652	77	8.8	81.6	9.6	4,738,067	168,466	4,083,334	486,267	3.0	86.2	10.2					
	1909	23	34	14	661	82	505	74	12.4	76.4	11.2	3,207,000	181,279	2,820,570	205,211	5.7	87.9	6.4					
Cars and general shop construction and repairs by steam-railroad companies.	1914	.....	14	.....	1,601	.....	1,601	.....	100.0	.....	.....	2,583,653	.....	2,583,653	.....	100.0	.....	.....					
	1909	.....	8	.....	777	.....	777	.....	100.0	.....	.....	1,163,395	.....	1,163,395	.....	100.0	.....	.....					
Confectionery.....	1914	12	6	8	336	30	268	38	8.9	79.8	11.3	1,580,735	138,088	1,326,732	115,015	8.7	83.9	7.3					
	1909	9	6	4	283	34	218	31	12.0	77.0	11.0	1,215,256	106,466	890,928	217,872	8.8	73.3	17.9					
Copper, tin, and sheet-iron products.	1914	31	15	16	466	101	332	33	21.7	71.2	7.1	2,674,524	234,532	2,316,607	123,385	8.8	86.6	4.6					
	1909	20	5	14	431	175	201	55	40.6	46.6	12.8	1,611,244	585,838	805,795	219,611	36.4	50.0	13.6					
Flour-mill and gristmill products.	1914	34	40	21	450	46	372	32	10.2	82.7	7.1	11,192,573	1,050,684	9,586,401	555,488	9.4	85.7	4.9					
	1909	45	45	24	394	88	259	47	22.3	65.7	11.9	8,891,001	1,845,411	6,039,597	1,005,993	20.8	67.9	11.3					
Foundry and machine-shop products.	1914	67	62	40	1,254	263	873	118	21.0	69.6	9.4	3,822,590	680,466	2,700,496	441,628	17.8	70.6	11.6					
	1909	31	33	18	1,055	170	800	85	16.1	75.8	8.1	3,135,068	562,277	2,337,800	234,931	17.9	74.6	7.5					
Furniture.....	1914	9	8	4	673	14	655	4	2.1	97.3	0.6	1,335,380	39,393	1,256,600	39,387	2.9	94.1	3.0					
	1909	5	9	5	552	34	492	26	6.2	89.1	4.7	1,093,743	62,522	972,284	58,937	5.7	88.9	5.4					
Gas, illuminating and heating.	1914	.....	9	.....	385	.....	385	.....	100.0	.....	.....	1,528,060	.....	1,528,060	.....	100.0	.....	.....					
	1909	.....	8	.....	260	.....	260	.....	100.0	.....	.....	909,115	.....	909,115	.....	100.0	.....	.....					
Leather goods.....	1914	33	8	7	202	54	125	23	26.7	61.9	11.4	1,075,016	251,757	714,245	109,014	23.4	66.5	10.1					
	1909	28	9	11	353	82	235	36	23.2	66.6	10.2	1,029,441	349,444	1,087,063	192,934	21.5	60.7	11.8					
Lumber and timber products.	1914	198	162	166	13,888	744	12,306	838	5.4	88.6	6.0	30,920,407	1,226,810	28,009,632	1,683,965	4.0	93.6	5.4					
	1909	263	204	246	15,066	1,178	12,304	1,584	7.8	81.7	10.5	30,199,857	2,068,739	25,212,397	2,918,721	6.8	83.5	9.7					
Printing and publishing..	1914	221	87	69	1,556	334	1,095	127	21.4	70.4	8.2	6,010,857	1,184,288	4,287,903	538,666	19.7	71.3	9.0					
	1909	200	69	55	1,459	375	912	172	25.7	62.5	11.8	5,040,523	1,108,857	3,419,957	511,709	22.0	67.8	10.2					
Woolen goods.....	1914	.....	7	.....	648	.....	648	.....	100.0	.....	.....	1,701,587	.....	1,701,587	.....	100.0	.....	.....					
	1909	.....	6	.....	466	.....	466	.....	100.0	.....	.....	918,804	.....	918,804	.....	100.0	.....	.....					
Total for cities.....	1914	412	380	224	13,474	1,301	11,199	974	9.7	83.1	7.2	64,123,954	5,101,995	54,518,579	4,503,380	8.0	85.0	7.0					
ASTORIA.....	1914	23	22	12	1,172	69	1,059	44	5.9	90.4	3.7	4,587,801	227,979	4,187,168	172,154	5.0	91.3	3.7					
EUGENE.....	1914	14	9	14	238	54	135	49	22.7	56.7	20.6	810,346	167,382	388,578	254,386	20.7	47.9	31.4					
MEDFORD.....	1914	12	6	2	39	117	42	.....	128.8	71.2	.....	183,023	156,622	126,401	.....	130.9	69.1	.....					
PORTLAND.....	1914	336	325	176	11,273	1,077	9,467	729	9.5	84.0	6.5	55,697,440	4,203,753	48,151,708	3,281,979	7.7	86.4	5.9					
SALEM.....	1914	29	18	20	732	84	496	152	11.5	67.7	20.8	2,845,844	386,259	1,664,724	794,861	13.6	58.5	27.9					

<sup>1</sup> Includes the group "all others."

In 1914, measured by value of products and wage earners, the largest proportions for each of the 14 industries for which separate statistics are given are shown for corporate ownership.

Size of establishments.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is indicated by the statistics given in Table 12.

Table 12

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904
All classes.....	2,320	2,246	1,602	28,829	28,750	18,523	\$109,761,951	\$93,004,845	\$55,525,123	\$46,504,130	\$42,452,375	\$24,928,360
Less than \$5,000.....	907	789	584	927	957	747	2,220,810	1,926,913	1,529,491	1,522,173	1,343,938	1,040,739
\$5,000 to \$20,000.....	752	786	567	2,618	3,214	2,820	7,809,972	8,203,981	5,821,749	4,684,557	5,082,474	3,658,379
\$20,000 to \$100,000.....	451	482	332	5,549	7,104	5,228	19,682,477	21,453,056	14,162,072	8,990,230	10,626,549	6,969,113
\$100,000 to \$1,000,000.....	197	181	114	16,447	15,110	8,620	54,902,863	47,022,078	26,138,494	24,344,165	20,766,801	11,579,967
\$1,000,000 and over.....	13	8	5	3,288	2,365	1,108	25,145,829	14,398,817	7,873,317	6,963,005	4,632,613	1,680,162
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	39.1	35.1	36.5	3.2	3.3	4.0	2.0	2.1	2.8	3.3	3.2	4.2
\$5,000 to \$20,000.....	32.4	35.0	35.4	9.1	11.2	15.2	7.1	8.8	10.5	10.1	12.0	14.7
\$20,000 to \$100,000.....	19.4	21.5	20.7	19.2	24.7	28.2	18.0	23.1	25.5	19.3	25.0	28.0
\$100,000 to \$1,000,000.....	8.5	8.1	7.1	57.1	52.6	46.5	50.0	50.6	47.1	52.3	48.9	46.5
\$1,000,000 and over.....	0.6	0.4	0.3	11.4	8.2	6.0	22.9	15.5	14.2	15.0	10.9	6.7



For 1914, 210 establishments, or 9.1 per cent of the total number in the state, each reported products exceeding \$100,000 in value, as compared with 189, or 8.5 per cent of the total, in 1909, and 119, or 7.4 per cent, in 1904. For 1914 these establishments reported 19,735 wage earners, or 68.5 per cent of the total for the state, 72.9 per cent of the total value of products, and 67.3 per cent of the total added by manufacture. In the same year the small establishments, those having products less than \$5,000 in value, represented 39.1 per cent of the total number of establishments, but reported only 2 per cent of the total value of products.

The statistics indicate that the relative importance of larger establishments, those with an annual product of \$100,000 and over, has been constantly increasing. In 1904 the establishments of this class gave employment to 52.5 per cent of the wage earners, and their products formed 61.3 per cent of the total for all establishments. By 1914 these proportions had increased to 68.5 and 72.9 per cent, respectively.

Table 13 gives, for 1914 and 1909, for six of the more important industries, a classification of establishments, wage earners, value of products, and value added by manufacture, similar to that presented in Table 12 for all industries combined.

Table 13  INDUSTRY AND VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.		AVERAGE NUMBER OF WAGE EARNERS.				VALUE OF PRODUCTS.				VALUE ADDED BY MANUFACTURE.			
	1914	1909	1914	1909	Per cent distribution.		1914	1909	Per cent distribution.		1914	1909	Per cent distribution.	
					1914	1909			1914	1909			1914	1909
BUTTER, CHEESE, AND CONDENSED MILK.....	118	95	434	420	100.0	100.0	\$6,567,949	\$4,920,462	100.0	100.0	\$1,065,647	\$968,242	100.0	100.0
Less than \$5,000.....	17	16	5	6	1.2	1.4	45,166	45,021	0.7	0.9	9,135	9,500	0.9	1.0
\$5,000 to \$20,000.....	35	27	35	33	8.1	7.9	446,356	345,779	6.8	7.0	63,357	54,003	5.9	5.6
\$20,000 to \$100,000.....	54	40	176	104	40.6	24.8	2,539,422	1,834,374	38.7	37.3	375,426	248,958	35.2	25.7
\$100,000 and over <sup>1</sup> .....	12	12	218	277	50.2	66.0	3,537,005	2,695,288	53.8	54.8	617,729	655,781	58.0	67.7
CANNING AND PRESERVING.....	71	71	799	661	100.0	100.0	4,738,067	3,207,060	100.0	100.0	1,647,647	1,019,628	100.0	100.0
Less than \$5,000.....	21	25	39	36	4.9	5.4	46,981	59,234	1.0	1.8	21,537	26,195	1.3	2.6
\$5,000 to \$20,000.....	12	17	47	98	5.9	14.8	130,054	194,061	2.7	6.1	50,373	78,701	3.1	7.7
\$20,000 to \$100,000.....	20	19	184	264	23.0	39.9	828,423	1,025,182	17.5	32.0	234,604	355,999	14.2	34.9
\$100,000 to \$1,000,000.....	18	10	529	263	66.2	39.8	3,732,609	1,928,583	78.8	60.1	1,341,133	558,733	81.4	54.8
FLOUR-MILL AND GISTMILL PRODUCTS.....	95	114	450	394	100.0	100.0	11,192,573	8,891,001	100.0	100.0	1,365,342	1,224,265	100.0	100.0
Less than \$5,000.....	10	8	3	6	0.7	1.5	31,958	27,503	0.3	0.3	7,192	7,632	0.5	0.6
\$5,000 to \$20,000.....	31	35	28	28	6.2	7.1	394,850	445,286	3.5	5.0	72,103	98,225	5.3	8.0
\$20,000 to \$100,000.....	35	55	83	134	18.4	34.0	1,582,655	2,782,962	14.1	31.3	244,268	528,851	17.9	43.2
\$100,000 to \$1,000,000.....	16	16	141	226	31.3	57.4	3,833,184	5,635,250	34.3	63.4	530,752	589,557	38.9	48.2
\$1,000,000 and over.....	3	3	195	-----	43.4	-----	5,349,926	-----	47.8	-----	511,027	-----	37.4	-----
FOUNDRY AND MACHINE-SHOP PRODUCTS.....	169	82	1,254	1,055	100.0	100.0	3,822,590	3,135,068	100.0	100.0	2,206,966	1,663,469	100.0	100.0
Less than \$5,000.....	66	15	70	11	5.6	1.0	186,881	32,724	4.9	1.0	138,836	20,548	6.3	1.2
\$5,000 to \$20,000.....	64	29	242	111	19.3	10.5	677,214	331,415	17.7	10.6	453,887	207,063	20.6	12.4
\$20,000 to \$100,000.....	33	30	489	387	39.0	36.7	1,397,271	1,047,323	36.6	33.4	784,028	597,345	35.5	35.9
\$100,000 to \$1,000,000.....	6	8	453	546	36.1	51.8	1,561,224	1,723,606	40.8	55.0	880,215	838,513	37.6	50.4
LUMBER AND TIMBER PRODUCTS.....	526	713	13,888	15,066	100.0	100.0	30,920,407	30,199,857	100.0	100.0	16,521,419	17,786,420	100.0	100.0
Less than \$5,000.....	230	284	374	484	2.7	3.2	486,728	646,974	1.6	2.1	381,993	521,251	2.3	2.9
\$5,000 to \$20,000.....	144	224	838	1,382	6.0	9.2	1,462,430	2,210,788	4.7	7.3	1,022,166	1,614,397	6.2	9.1
\$20,000 to \$100,000.....	80	139	1,605	3,493	11.6	23.2	3,131,226	6,210,660	10.1	20.6	1,899,100	4,219,587	11.5	23.7
\$100,000 to \$1,000,000.....	69	63	9,768	8,538	70.3	56.7	21,042,175	17,389,242	68.1	57.6	11,221,643	9,563,248	67.9	53.8
\$1,000,000 and over.....	3	3	1,303	1,169	9.4	7.8	4,797,848	3,732,193	15.5	12.4	1,996,517	1,867,937	12.1	10.5
PRINTING AND PUBLISHING.....	377	324	1,556	1,459	100.0	100.0	6,010,857	5,040,523	100.0	100.0	4,448,350	3,937,110	100.0	100.0
Less than \$5,000.....	201	171	157	168	10.1	11.5	508,733	437,672	8.5	8.7	413,031	348,614	9.2	8.9
\$5,000 to \$20,000.....	121	117	343	430	22.0	29.5	1,239,068	1,212,096	20.6	24.0	1,004,334	971,398	22.6	24.7
\$20,000 to \$100,000.....	49	30	494	396	31.8	27.1	1,828,460	1,174,676	30.4	23.3	1,404,184	874,804	31.6	22.2
\$100,000 and over <sup>1</sup> .....	6	6	562	465	36.1	31.9	2,434,596	2,216,079	40.5	44.0	1,626,801	1,742,294	36.6	44.3

<sup>1</sup> Includes the group "\$100,000 and over."

Table 14 presents, for 1914, for all industries combined, for each of the five cities having more than 10,000 inhabitants, statistics similar to those given in Table 12 for the state as a whole.

The totals for Astoria, Portland, and Salem show the same general condition shown by Table 12 as prevailing in the totals for all industries in the state, namely, a preponderance as to value of products for establish-

ments in the group "\$100,000 and over." For these cities the products of the establishments in this class represented 84.9 per cent, 77 per cent, and 67.2 per cent of the totals for the three cities, respectively. For Eugene and Medford, however, the greatest value of products, 76.1 per cent and 55.4 per cent, appears for the group of establishments reporting products valued at \$20,000 to \$100,000.

## MANUFACTURES—OREGON.

CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
		Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.			Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
ASTORIA.....	57	1,172	100.0	\$4,587,301	100.0	\$1,938,419	100.0	PORTLAND.....	837	11,273	100.0	\$55,697,440	100.0	\$21,798,787	100.0
Less than \$5,000.....	14	12	1.0	41,457	0.9	26,532	1.4	Less than \$5,000.....	255	174	1.5	657,953	1.2	462,266	2.1
\$5,000 to \$20,000.....	16	42	3.6	157,235	3.4	87,251	4.5	\$5,000 to \$20,000.....	305	985	8.7	3,273,643	5.9	2,161,799	9.9
\$20,000 to \$100,000.....	14	133	11.4	494,982	10.8	232,438	12.0	\$20,000 to \$100,000.....	189	2,509	22.3	8,888,341	15.9	4,527,428	20.8
\$100,000 to \$1,000,000.....	13	985	84.0	3,893,627	84.9	1,592,198	82.1	\$100,000 to \$1,000,000.....	80	5,778	51.3	24,979,961	44.9	10,812,173	49.6
								\$1,000,000 and over.....	8	1,827	16.2	17,897,542	32.1	3,835,171	17.6
EUGENE.....	37	238	100.0	\$10,346	100.0	\$403,066	100.0	SALEM.....	67	732	100.0	\$2,845,844	100.0	\$1,208,629	100.0
Less than \$5,000.....	11	10	4.2	34,944	4.3	20,498	5.1	Less than \$5,000.....	22	17	2.3	56,767	2.0	29,544	2.4
\$5,000 to \$20,000.....	14	46	19.3	158,560	19.6	93,530	23.2	\$5,000 to \$20,000.....	18	58	7.9	183,409	6.4	93,902	7.8
\$20,000 and over <sup>1</sup> .....	12	182	76.5	616,842	76.1	289,038	71.7	\$20,000 to \$100,000.....	17	177	24.2	694,690	24.4	300,566	24.9
								\$100,000 to \$1,000,000.....	10	480	65.6	1,910,978	67.2	784,683	64.9
MEDFORD.....	18	59	100.0	\$183,023	100.0	\$117,445	100.0								
Less than \$5,000.....	7	11	18.6	23,267	12.7	12,553	10.7								
\$5,000 to \$20,000.....	8	18	30.5	58,393	31.9	30,177	25.7								
\$20,000 to \$100,000.....	3	30	50.9	101,363	55.4	74,715	63.6								

<sup>1</sup> Includes the group "\$100,000 to \$1,000,000."

Table 15 shows the size of establishments in 1914 as measured by the average number of wage earners employed. The figures given are for all industries combined and 19 of the more important industries, for the state as a whole; and for all industries combined in

each of the five cities having more than 10,000 inhabitants. Table 16 presents, for 1914, percentages based on the figures in Table 15, and for 1909, similar percentages for all industries combined and for individual industries in the state as a whole.

Table 15	INDUSTRY AND CITY.	TOTAL.		ESTABLISHMENTS EMPLOYING—						
				No wage earners.	1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.	
					Estab-lish-ments.	Wage earners (average number).	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.
All industries .....		2,320	28,829	362	1,343	2,926	388	4,002	105	3,323
Bread and other bakery products .....		163	700	39	104	192	13	115	5	160
Brick and tile, terra-cotta, and other clay products.....		42	382	1	25	76	12	126	2	63
Butter, cheese, and condensed milk .....		118	434	11	92	160	10	99	4	110
Canning and preserving .....		71	799	3	35	80	22	250	8	224
Cars and general shop construction and repairs by steam-railroad companies.....		14	1,601	.....	1	4	2	15	2	62
Confectionery .....		26	336	2	13	25	7	60	2	84
Copper, tin, and sheet-iron products .....		62	466	11	40	104	9	87	1	36
Flour-mill and gristmill products .....		95	450	13	67	127	11	105	2	71
Foundry and machine-shop products .....		169	1,254	11	107	217	39	389	9	319
Furniture .....		21	673	3	11	20	1	13	1	31
Gas, illuminating and heating .....		9	385	.....	5	16	3	31	.....	.....
Leather goods .....		48	202	7	31	41	7	76	3	85
Liquors, malt .....		10	189	.....	2	7	6	63	1	32
Lumber and timber products .....		526	13,888	32	291	704	99	1,040	38	1,273
Printing and publishing .....		377	1,556	123	197	406	48	495	5	164
Shipbuilding, including boat building .....		20	163	6	8	14	3	35	2	54
Slaughtering and meat packing .....		14	442	1	8	23	4	38	.....	.....
Tobacco, cigars .....		63	154	25	33	80	4	52	1	22
Woolen goods .....		7	648	.....	.....	.....	2	25	1	28
All other industries .....		465	4,107	74	273	630	86	888	18	515
Total for cities .....		1,016	13,474	173	516	1,215	214	2,258	57	1,704
ASTORIA .....		57	1,172	5	33	85	11	124	4	93
EUGENE .....		37	238	4	22	55	10	103	.....	.....
MEDFORD .....		18	59	3	12	29	3	30	.....	.....
PORTLAND .....		837	11,273	152	417	987	171	1,790	49	1,491
SALEM .....		67	732	9	32	59	19	211	4	120

Table 15—Continued.

INDUSTRY AND CITY.	ESTABLISHMENTS EMPLOYING—									
	51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.	
	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.
All industries.....	60	4,447	43	6,861	17	6,129	2	1,141		
Bread and other bakery products.....	2	127	2	233						
Brick and tile, terra-cotta, and other clay products.....	1	65								
Butter, cheese, and condensed milk.....	3	245								
Canning and preserving.....	6	425	1	127	1	413	1	555		
Cars and general shop construction and repairs by steam-railroad companies.....	2	167								
Confectionery.....	2	147	1	239						
Copper, tin, and sheet-iron products.....	2	138	1	191						
Flour-mill and gristmill products.....	3	216	2	393						
Foundry and machine-shop products.....										
Furniture.....										
Gas, illuminating and heating.....					1	338				
Leather goods.....	1	87								
Liquors, malt.....	26	1,967	28	4,387	11	3,931	1	580		
Lumber and timber products.....	2	163	2	328						
Printing and publishing.....	1	60			1	381				
Shipbuilding, including boat building.....										
Slaughtering and meat packing.....										
Tobacco, cigars.....	1	80	3	515						
Woolen goods.....	8	500	3	448	3	1,056				
All other industries.....										
Total for cities.....	30	2,260	18	2,969	7	2,513	1	555		
ASTORIA.....	1	78	2	353	1	439				
EUGENE.....	1	80								
MEDFORD.....										
PORTLAND.....	27	2,017	14	2,359	6	2,074	1	555		
SALEM.....	1	85	2	257						

There were 362 establishments for which no wage earners are shown. In these establishments all the work is done by the proprietors or members of their families, firm members, or persons classed as salaried employees. For some of them the number of wage earners employed was so small and the term of employment so short that in computing the average, as described in the "Explanation of terms," the number was less than one person and the establishment was

classed as one having "no wage earners." The small establishments—those employing from 1 to 20 wage earners—formed 74.6 per cent of the total for the state, but gave employment to only 24 per cent of the total wage earners reported. The groups of establishments having more than 100 wage earners, although representing only 2.7 per cent of the total number of establishments in the state, gave employment to 49.1 per cent of the total wage earners.

Table 16

INDUSTRY AND CITY.	Cen-sus year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.								INDUSTRY AND CITY.	Cen-sus year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.							
		1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000			1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000
All industries.....	1914 1909	10.1 10.2	13.9 16.5	11.5 16.4	15.4 14.7	23.8 20.7	21.3 15.1	4.0 6.3		Leather goods.....	1914 1909	20.3 19.5	37.6 13.9	42.1 49.9	16.7				
Bread and other bakery products.....	1914 1909	27.4 28.2	16.4 21.9	22.9 9.8		33.3 29.0				Liquors, malt.....	1914 1909	3.7 7.8	33.3 48.5	17.0 11.3	46.0 32.4				
Brick and tile, terra-cotta, and other clay products.....	1914 1909	19.9 27.0	33.0 41.0	13.9 31.4	33.2					Lumber and timber products...	1914 1909	5.1 5.7	7.5 12.7	9.2 15.8	14.1 15.1	31.6 20.5	28.3 24.8	4.2 5.3	
Butter, cheese, and condensed milk.....	1914 1909	36.9 30.2	22.8 26.2	25.3 13.8	15.0 29.8					Printing and publishing.....	1914 1909	26.1 28.5	31.8 34.1	10.5 8.1	10.5 14.3	21.1 15.1			
Canning and preserving.....	1914 1909	10.0 17.9	31.3 34.5	28.0 20.0	30.7 21.0					Shipbuilding, including boat building.....	1914 1909	8.6 11.8	21.5 8.0	33.1 80.2	36.8				
Cars and general shop construction and repairs by steam-railroad companies.....	1914 1909	0.3 2.4	0.9 14.7	3.9 18.4	26.5 18.4	7.9	25.8	34.7 64.5		Slaughtering and meat packing.....	1914 1909	5.2 6.8	8.6 9.6				86.2 73.8		
Confectionery.....	1914 1909	7.4 8.1	17.9 34.6	25.0 31.1	49.7 26.1					Tobacco, cigars.....	1914 1909	51.9 31.7	33.8 33.3	14.3 35.0					
Copper, tin, and sheet-iron products.....	1914 1909	22.3 12.5	13.7 22.3	7.7 34.1		51.3 31.1				Woolen goods.....	1914 1909		3.9 13.1	4.3 13.7	12.3 73.2	79.5			
Flour-mill and gristmill products.....	1914 1909	28.2 45.7	23.3 21.8	15.8 18.5	32.7 14.0					All other industries.....	1914 1909	15.3 12.1	21.6 17.3	12.5 12.0	13.7 13.2	10.9 27.0	26.0 7.0	11.4	
Foundry and machine-shop products.....	1914 1909	17.3 9.0	31.0 28.5	25.5 23.4	11.0 18.4	15.2 20.7				Total for cities.....	1914	9.0	16.8	12.6	16.8	22.0	18.7	4.1	
Furniture.....	1914 1909	3.0 3.4	1.9 8.5	4.6 12.0	32.1 25.2	58.4 50.9				ASTORIA.....	1914	7.2	10.6	7.9	6.7	30.1	37.5		
Gas, illuminating and heating..	1914 1909	4.1 6.5	8.1 3.5				87.8			EUGENE.....	1914	23.1	43.3		33.6				
										MEDFORD.....	1914	49.2	50.8						
										PORTLAND.....	1914	8.8	15.9	13.2	17.9	20.9	18.4	4.9	
										SALEM.....	1914	8.1	28.8	16.4	11.6	35.1			

Among the cities, the highest percentages of the total number of wage earners are reported by establishments employing more than 100 wage earners.

**Engines and power.**—Table 17 shows, for 1914, 1909, and 1904, for all industries combined, the number and total horsepower of engines or motors, classified according to their character, employed in generating power (including electric motors operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated by the establishments reporting.

This table shows an increase in primary power

amounting to 44,203 horsepower, or 25.3 per cent, from 1909 to 1914. This increase is due largely to the increase in rented power. The use of rented power, almost wholly electric, has greatly increased since 1904, when 4,727 horsepower, representing 5.8 per cent of the total primary power, was reported. In 1909 the amount of such power had increased to 14,811 horsepower, or 8.4 per cent of the total, and, in 1914, to 44,010 horsepower, or 20.1 per cent of the total. The increase in the use of electric motors run by current generated within the same establishments has not kept pace with that in rented power.

Table 17

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
				Amount.			Per cent distribution.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904
Primary power, total.....	5,188	3,442	1,318	219,222	175,019	81,348	100.0	100.0	100.0
Owned.....	1,719	1,921	1,318	175,155	160,110	76,543	79.9	91.5	94.1
Steam engines and turbines <sup>1</sup> .....	1,308	1,572	1,008	116,591	112,244	55,512	53.2	64.1	68.2
Internal-combustion engines.....	133	81	58	1,289	428	371	0.6	0.2	0.5
Water wheels, turbines, and motors.....	278	268	252	57,275	47,438	20,660	26.1	27.1	25.4
Rented.....	3,469	1,521	( <sup>2</sup> )	44,067	14,909	4,805	20.1	8.5	5.9
Electric.....	3,469	1,521	( <sup>2</sup> )	44,010	14,811	4,727	20.1	8.4	5.8
Other.....				57	98			0.1	0.1
Electric.....	3,937	1,745		53,739	20,802	5,223	100.0	100.0	100.0
Rented.....	3,469	1,521	( <sup>2</sup> )	44,010	14,811	4,727	81.9	71.2	90.5
Generated by establishments reporting.....	468	224	31	9,729	5,991	496	18.1	28.8	9.5

<sup>1</sup> Figures for horsepower include for 1909 and 1904 the amount reported under the head of "other" owned power.

<sup>2</sup> Not reported.

**Fuel.**—Closely related to the kind of power employed in manufactures is that of the fuel consumed in generating this power or otherwise used in the manufacturing processes.

Table 18 shows, for 1914, the quantity of each kind of fuel used for which data were obtained for all industries combined and for selected industries in the state as a whole, and for all industries combined in each city.

Table 18

INDUSTRY AND CITY.	COAL.					INDUSTRY AND CITY.	COAL.				
	An-thra-cite (tons, 2,240 lbs.).	Bitu-minous (tons, 2,000 lbs.).	Coke (tons, 2,000 lbs.).	Oil, in-cluding gasoline (barrels).	Gas (1,000 cubic feet).		An-thra-cite (tons, 2,240 lbs.).	Bitu-minous (tons, 2,000 lbs.).	Coke (tons, 2,000 lbs.).	Oil, in-cluding gasoline (barrels).	Gas (1,000 cubic feet).
All industries.....	1,821	14,437	6,106	940,377	61,988	Ice, manufactured.....		1,090		45,382	
Bread and other bakery products.....	27	476	716	11,671	10,433	Liquors, malt.....	1,220	440	597	14,065	
Brick and tile, terra-cotta, and other clay products.....		3,382		59,370		Lumber and timber products.....		462		53,587	
Butter, cheese, and condensed milk.....		315		5,630		Printing and publishing.....	41	113	4	1,465	13,194
Canning and preserving.....		60		16,208	327	Slaughtering and meat packing.....	40	113		25,369	
Cars and general shop construction and repairs by steam-railroad companies.....	329	700		60,965		Woolen goods.....		520		17,668	
Coffee, roasting and grinding.....		50			10,111	All other industries.....	42	2,188	864	253,007	5,183
Confectionery and ice cream.....	21	399	6	7,614		Total for cities.....	1,737	7,177	4,567	253,330	59,373
Copper, tin, and sheet-iron products.....		67	20	47	8,110	ASTORIA.....	1,247	154	100	14,419	644
Flour-mill and gristmill products.....		183		3,628		EUGENE.....		10	88		786
Food preparations.....		34		10,933	2,520	MEDFORD.....			4		5
Foundry and machine-shop products.....	101	411	2,528	9,315	4,317	PORTLAND.....	438	4,994	3,395	237,430	56,779
Furniture.....		286		3,226		SALEM.....	52	2,019	980	6,481	1,159
Gas, illuminating and heating.....		3,261	1,371	341,230							

## SPECIAL STATISTICS.

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and cost of materials, the quantity and value of products, and other information for securing which no provision is made on the general schedule. Certain data of this character for five important industries in Oregon are here presented, followed by statistics for laundries.

**Flour-mill and gristmill products.**—Table 19 gives the quantity and value of flour-mill and gristmill products for 1914, 1909, and 1904.

Table 19	1914	1909	1904
Products, total value.....	\$11,192,573	\$8,891,001	\$8,467,613
Wheat flour:			
Barrels.....	1,791,334	1,360,281	1,740,849
Value.....	\$7,749,619	\$6,015,845	\$6,324,932
Rye flour:			
Barrels.....	4,127	1,299	285
Value.....	\$16,220	\$5,502	\$1,300
Barley meal:			
Pounds.....	1,836,918	1,095,004	2,693,000
Value.....	\$34,806	\$17,963	\$32,750
Corn meal and corn flour:			
Barrels.....	2,867	559	685
Value.....	\$14,050	\$2,236	\$3,395
Bran and middlings:			
Tons.....	51,758		
Value.....	\$1,185,918	104,262	98,747
Feed and offal:			
Tons.....	71,254	\$2,688,095	\$2,061,170
Value.....	\$1,892,079		
Breakfast foods:			
Pounds.....	5,396,437		
Value.....	\$188,715	\$58,554	\$4,900
All other cereal products, value.....	\$93,469		
All other products, value.....	\$17,697	\$102,806	\$39,166

Wheat flour constituted 69.2 per cent of the total value of products in 1914 and 67.7 per cent in 1909, and increased in production for the five-year period 431,053 barrels, or 31.7 per cent, and in value \$1,733,774, or 28.8 per cent.

The 95 establishments reporting in 1914 show a total equipment of 481 stands of rolls, 53 runs of stone, and 66 attrition mills, and 4 establishments reported the manufacture of sacks.

**Slaughtering and meat packing.**—Table 20 presents statistics in regard to the quantity and value of specified products reported by slaughtering and meat-packing establishments for 1914, 1909, and 1904.

The statistics given in this table represent the products of the wholesale slaughtering and meat-packing establishments. Beef and pork are the principal products of the industry. In addition to the products for which separate quantities and values are given, the total for "all other products" included pickled beef and other cured, meat puddings, scrapple, etc., lard compounds and substitutes, tallow, soap stock, sausage casings, fertilizer materials, glue, and wool. The growth of the industry during the census period 1909 to 1914 was not so remarkable as that from 1904 to 1909, when the value of products increased 102.2 per cent. The only decrease in pork products shown for the period 1909-1914 is in lard,

which decreased 2,117,728 pounds, or 37.1 per cent. This is due in large part to the increased manufacture and use of lard compounds and substitutes.

Table 20	1914	1909	1904
Products, total value.....	\$7,486,920	\$5,879,615	\$2,907,154
Fresh meat:			
Beef.....			
Pounds.....	18,550,133	23,759,934	13,525,565
Value.....	\$2,237,855	\$2,235,816	\$882,814
Veal.....			
Pounds.....	162,928	851,558	293,980
Value.....	\$19,888	\$88,663	\$19,822
Mutton and lamb—			
Pounds.....	7,242,761	3,866,798	3,785,414
Value.....	\$633,165	\$351,170	\$223,207
Pork.....			
Pounds.....	10,635,553	4,253,595	2,148,669
Value.....	\$1,213,683	\$517,974	\$185,657
All other fresh meat—			
Pounds.....	1,737,778	72,535	
Value.....	\$153,971	\$8,303	
Pork, pickled and other cured:			
Pounds.....	7,817,795	5,123,483	9,247,347
Value.....	\$1,192,045	\$752,137	\$898,605
Sausages.....			
Pounds.....	2,180,304	2,069,163	1,041,720
Value.....	\$307,751	\$250,822	\$79,150
Lard.....			
Pounds.....	3,591,540	5,709,268	2,449,740
Value.....	\$419,179	\$635,628	\$220,023
Hides and pelts:			
Cattle.....			
Number.....	33,431		
Pounds.....	2,456,098		
Value.....	\$324,668	56,421	26,493
Calf.....			
Number.....	1,188	3,390,352	1,533,083
Pounds.....	16,108	\$427,179	\$131,603
Value.....	\$2,569		
Sheep.....			
Number.....	141,892	92,038	13,267
Value.....	\$103,966	\$52,589	\$9,996
All other products, value.....	\$878,180	\$559,334	\$256,277

**Butter, cheese, and condensed milk.**—This is a comparatively new industry in Oregon. Its growth is emphasized by the fact that in 1889 only 12 establishments were reported as engaged in the manufacture of butter, cheese, and condensed milk, while in 1914 the number had increased to 118 establishments, reporting a total product of \$6,567,949.

Table 21 gives the quantity and value of the products of the industry for 1914, 1909, and 1904.

The production of butter increased during the decade by 6,102,338 pounds, or 120.1 per cent. The quantity of cheese manufactured increased during the same period by 4,059,165 pounds, or 180 per cent. It is impossible to give the figures for the manufacture of condensed milk in the state for 1904 without disclosing the operations of individual establishments. The increase in the manufacture of this product, however, from 1909 to 1914 was 1,368,477 pounds, or 6.3 per cent. Butter constituted 50.3 per cent of the total value of the product for 1914 for the industry as a whole; cheese, 14.5 per cent; and condensed milk, 21.2 per cent. The total production of butter in 1914 was 11,182,937 pounds, and of this, 66.8 per cent was put up in prints or rolls.

The manufacture of cheese and condensed milk is practically confined to that of "full-cream cheese" and unsweetened and evaporated milk.

Table 21	1914	1909	1904 <sup>1</sup>
Products, total value.....	\$6,567,949	\$4,920,462	\$1,629,343
Butter:			
Pounds.....	11,182,937	8,472,660	5,080,599
Value.....	\$3,306,464	\$2,682,106	\$1,266,891
Packed solid—			
Pounds.....	3,714,736	992,102	855,962
Value.....	\$1,022,496	\$298,721	\$193,691
Prints or rolls—			
Pounds.....	7,468,201	7,480,558	4,224,637
Value.....	\$2,283,968	\$2,383,385	\$1,073,200
Cream sold:			
Pounds.....	2,300,099	1,019,239	477,218
Value.....	\$276,561	\$132,097	\$40,798
Cheese:			
Pounds.....	6,314,757	4,218,953	2,255,592
Value.....	\$952,101	\$640,868	\$249,376
Full cream—			
Pounds.....	6,236,165	4,166,038	2,214,067
Value.....	\$942,824	\$631,259	\$244,621
Part cream—			
Pounds.....	11,270	37,415	.....
Value.....	\$1,247	\$5,369	.....
Other kinds—			
Pounds.....	67,322	15,500	41,525
Value.....	\$8,030	\$4,240	\$4,755
Condensed and evaporated milk, unsweetened: <sup>2</sup>			
Pounds.....	23,157,414	21,788,937	.....
Value.....	\$1,392,698	\$1,164,360	.....
All other butter, cheese, and condensed milk, factory products, value.....	\$386,474	\$22,253	\$17,792
All other products, value.....	\$253,651	\$278,778	\$54,486

<sup>1</sup> Excludes two establishments, to avoid disclosure of individual operations.

<sup>2</sup> Includes one establishment in 1909 reporting condensed milk, sweetened.

<sup>3</sup> Includes skimmed milk, buttermilk, and casin sold.

**Printing and publishing.**—The printing and publishing industry in Oregon shows a decided growth during the last semidecade, measured by both number of publications and aggregate circulation. The following table shows the number of publications and aggregate circulation per issue, classified according to period of issue, for the years 1914, 1909, and 1904.

Table 22 PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1914	1909	1904	1914	1909	1904
Total.....	289	254	221	917,846	735,363	445,946
Daily.....	34	31	23	218,449	150,560	92,171
Sunday.....	7	6	8	146,975	93,142	58,800
Semiweekly.....	114	211	18	30,009	26,725	27,330
Weekly.....	201	176	152	349,363	229,585	180,395
Monthly.....	22	27	16	108,850	219,351	81,400
All other classes.....	11	3	4	64,200	16,000	5,850

<sup>1</sup> Includes two triweeklies.

<sup>2</sup> Includes one triweekly.

<sup>3</sup> Includes four semimonthlies, six quarterlies, and one semiannual.

Increases from 1909 to 1914 are shown for all classes of publications, both in number and aggregate circulation, except monthlies. Weeklies showed the greatest increase for both items. In 1914, 22 of the 34 daily papers, with an aggregate circulation of 140,823, were evening editions. All of the publications were printed in the English language, except 1 daily in Japanese; 8 weeklies, of which 2 each were in German, Italian, and Finnish, and 1 each in Danish-and-Norwegian and English-and-German; and 1 semiannual in Finnish.

**Canning and preserving.**—Table 23 gives the quantity and value of the principal products reported in 1914, 1909, and 1904.

This is one of the important and distinctive industries of Oregon. The increase in value of products

from 1909 to 1914 was \$1,531,007, or 47.7 per cent, and from 1904 to 1909, \$295,696, or 10.2 per cent.

Table 23	1914	1909	1904
Products, total value <sup>1</sup> .....	\$4,738,067	\$3,207,060	\$2,011,364
Canned vegetables.....	\$27,863	\$48,219	\$30,015
Beans—			
Cases.....	9,292	12,831	4,000
Value.....	\$10,231	\$20,179	\$10,892
All other—			
Cases.....	6,099	10,505	0,206
Value.....	\$11,632	\$22,040	\$10,153
Canned fruits.....	\$539,675	\$177,818	\$214,363
Apples—			
Cases.....	24,872	8,557	15,943
Value.....	\$40,148	\$15,918	\$35,170
Blackberries—			
Cases.....	2,219	4,408	4,691
Value.....	\$4,114	\$9,321	\$8,635
Cherries—			
Cases.....	38,470	22,770	27,346
Value.....	\$112,926	\$49,203	\$72,405
Pears—			
Cases.....	20,762	14,598	14,174
Value.....	\$78,204	\$42,842	\$43,404
Raspberries—			
Cases.....	20,641	9,658	4,342
Value.....	\$91,187	\$23,209	\$15,540
Strawberries—			
Cases.....	15,194	3,490	0,757
Value.....	\$55,692	\$10,361	\$30,324
All other—			
Cases.....	50,061	14,033	3,430
Value.....	\$157,401	\$20,967	\$8,756
Dried fruits:			
Pounds.....	12,863,689	14,028,251	803,000
Value.....	\$349,900	\$473,008	\$31,000
Prunes—			
Pounds.....	12,621,817	14,009,597	813,000
Value.....	\$822,837	\$470,911	\$28,000
All other—			
Pounds.....	241,872	18,654	59,000
Value.....	\$27,063	\$2,097	\$1,000
Canned fish, clams, etc.....	\$2,366,075	\$1,352,281	\$1,691,762
Salmon—			
Cases.....	376,492	.....	.....
Value.....	\$2,314,771	\$1,341,481	\$1,691,762
All other—			
Cases.....	14,062	.....	.....
Value.....	\$51,304	\$10,800	.....
Salted fish:			
Pounds.....	3,672,277	5,333,674	7,001,081
Value.....	\$473,458	\$731,600	\$689,481
Smoked or dried fish:			
Pounds.....	189,920	137,700	.....
Value.....	\$21,507	\$20,800	.....
All other products, including pickles, preserves, and sauces, value.....	\$459,589	\$403,334	\$251,710

<sup>1</sup> In addition, products to the value of \$20,433 in 1914 and \$10,538 in 1909 were reported by establishments engaged primarily in other industries.

The products of the industry have been divided into seven general classes, as follows: Canned vegetables; canned fruits; dried fruits; canned fish, clams, etc.; salted fish; smoked and dried fish; and all other products, the latter classification including pickles, preserves, and sauces. The value of canned vegetables formed only six-tenths of 1 per cent of the total value of products for the industry in 1914, 1.5 per cent in 1909, and 1 per cent in 1904; that of canned fruits, 11.4 per cent in 1914, 5.5 per cent in 1909, and 7.4 per cent in 1904; that of dried fruits, 17.9 per cent in 1914, 14.7 per cent in 1909, and 1.1 per cent in 1904; that of fish products, 60.4 per cent in 1914, 65.6 per cent in 1909, and 81.9 per cent in 1904; and that of all other products, 9.7 per cent in 1914, 12.6 per cent in 1909, and 8.6 per cent in 1904.

**Laundries.**—Statistics for power laundries are not included in the general tables or in the totals for all manufacturing industries. Table 24, however, summarizes these statistics for Oregon for 1914 and 1909.



Table 24

	POWER LAUNDRIES.		
	Number or amount.		Per cent of increase, 1909-1914 <sup>1</sup>
	1914	1909	
Number of establishments.....	78	58	.....
Persons engaged.....	1,969	1,674	17.6
Proprietors and firm members.....	74	54	.....
Salaried employees.....	150	103	—8.0
Wage earners (average number).....	1,745	1,457	19.8
Primary horsepower.....	2,338	1,585	47.5
Capital.....	\$1,669,317	\$991,017	68.4
Salaries and wages.....	1,136,059	845,314	34.4
Salaries.....	174,382	160,547	40.4
Wages.....	961,677	684,767	8.6
Rent and taxes.....	49,055	33,217	47.7
Cost of materials.....	355,166	263,593	46.1
Amount received for work done.....	2,146,868	1,569,982	36.7

<sup>1</sup> A minus sign (—) denotes decrease; percentages are omitted where base is less than 100.

In both 1914 and 1909 Oregon ranked eighteenth among the states in amount received for work done, and twenty-first in 1914 in number of persons engaged in the industry. The table shows an increase for all items given, with the exception of salaried employees, which shows a small decrease. In 1914, 27, and in 1909, 22 laundries were reported as under corporate ownership, these establishments reporting 75.5 and 74.5 per cent, respectively, of the amount received for work done.

Table 25 shows, for 1914 and 1909, the number of wage earners employed in the laundries on the 15th day of each month, or the nearest representative day, and the percentage which the number reported for each month formed of the greatest number reported for any month of the same year.

Table 26 shows statistics as to kinds and amounts of power used in the laundries of the state in 1914 and 1909, together with percentages of increase for the five-year period.

Table 27 shows the kinds and quantities of fuel used in the laundries, as reported at the censuses of 1914 and 1909, with percentages of increase.

Table 25

MONTH.	WAGE EARNERS.			
	Number.		Per cent of maximum.	
	1914	1909	1914	1909
January.....	1,820	1,371	100.0	90.7
February.....	1,793	1,374	98.5	90.9
March.....	1,804	1,392	99.1	92.1
April.....	1,796	1,411	98.7	93.3
May.....	1,786	1,439	98.1	95.2
June.....	1,757	1,482	96.5	98.0
July.....	1,807	1,504	99.3	98.5
August.....	1,747	1,499	96.0	99.1
September.....	1,690	1,497	92.8	98.0
October.....	1,688	1,512	92.7	100.0
November.....	1,638	1,505	90.0	99.5
December.....	1,619	1,497	89.0	99.0

Table 26

KIND.	NUMBER OF ENGINES OR MOTORS.		HORSEPOWER.		
			Amount.		Per cent of increase, 1909-1914. <sup>1</sup>
	1914	1909	1914	1909	
Primary power, total.....	102	65	2,338	1,585	47.5
Owned.....	67	52	2,133	1,486	43.5
Steam engines and turbines.....	63	49	2,095	1,406	49.0
Internal-combustion engines.....	2	2	26	70	.....
Water wheels, turbines, and motors.....	2	1	12	10	.....
Rented.....	35	13	205	99	.....
Electric.....	35	13	205	96	.....
Other.....	.....	.....	.....	3	.....
Electric—Generated by establishments reporting.....	88	.....	277	.....	.....

<sup>1</sup> Percentages are omitted where base is less than 100.

Table 27

KIND.	Unit.	QUANTITY.		Per cent of increase, 1909-1914. <sup>1</sup>
		1914	1909	
Anthracite coal.....	Tons (2,240 lbs.).....	200	11	.....
Bituminous coal.....	Tons (2,000 lbs.).....	1,525	729	109.2
Coke.....	Tons (2,000 lbs.).....	150	.....	.....
Oil.....	Barrels.....	53,969	21,888	146.6
Gas.....	1,000 cubic feet.....	3,325	2,732	21.7

<sup>1</sup> Percentages are omitted where base is less than 100.

## MANUFACTURES—OREGON.

## GENERAL TABLES.

Table 28 gives, for 1914, 1909, and 1904, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products, for selected industries in the state and in cities having 50,000 inhabitants or more; and for cities having from 10,000 to 50,000 inhabitants, similar data for all industries combined.

Table 29 presents, for 1914, in the state as a whole and in cities having 50,000 inhabitants or more, statistics in detail for each industry that can be shown without the disclosure of the operations of individual establishments, and for each of the cities in the state having from 10,000 to 50,000 inhabitants, for all industries combined.

TABLE 28.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost. of ma- terials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of ma- terials.	Value of prod- ucts.
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.															
All industries.....	1914	2,320	28,829	219,222	\$20,932	\$63,258	\$109,762	Gas, illuminating and heating.	1914	9	385	2,482	\$310	\$404	\$1,528
	1909	2,246	28,750	175,019	19,902	50,552	93,005		1909	8	260	1,483	194	200	909
	1904	1,602	18,523	81,348	11,444	30,597	55,525		1904	5	32	202	31	84	457
Awnings, tents, and sails.	1914	5	84	29	45	188	493	Ice, manufactured.....	1914	27	106	2,650	92	118	370
	1909	5	95	23	29	314	459		1909	25	69	1,569	53	76	257
	1904	4	22	.....	12	90	123		1904	20	75	1,416	57	41	217
Bread and other bakery products.	1914	163	700	589	463	1,880	3,326	Leather goods.....	1914	48	202	205	158	673	1,075
	1909	151	613	336	441	1,621	2,829		1909	48	353	173	262	989	1,029
	1904	93	430	253	221	875	1,504		1904	26	270	71	173	542	925
Brick and tile, terra-cotta, and other clay products.	1914	42	382	2,894	201	165	521	Liquors, malt.....	1914	10	189	2,028	228	508	1,810
	1909	61	385	1,922	266	155	675		1909	18	204	2,018	206	454	1,857
	1904	43	264	766	132	63	315		1904	24	151	1,091	137	429	1,118
Butter, cheese, and condensed milk.	1914	118	434	1,827	325	5,502	6,568	Lumber and timber prod-ucts.	1914	526	13,888	101,832	9,942	14,399	30,920
	1909	95	420	1,935	290	3,952	4,920		1909	713	15,066	95,213	10,172	12,413	30,200
	1904	98	130	715	81	1,361	1,629		1904	477	8,558	43,364	5,450	6,856	15,418
Canning and preserving...	1914	71	799	1,655	339	3,090	4,738	Marble and stone work...	1914	24	88	278	85	146	346
	1909	71	661	1,318	315	2,187	3,207		1909	23	76	159	75	113	297
	1904	48	529	1,247	250	1,894	2,911		1904	8	38	13	42	77	190
Cars and general shop construction and repairs by steam-railroad companies.	1914	14	1,601	1,370	1,343	1,019	2,584	Printing and publishing...	1914	377	1,556	7,230	1,407	1,563	6,011
	1909	8	777	933	544	509	1,163		1909	324	1,459	1,027	1,448	1,103	5,041
	1904	12	930	955	677	386	1,265		1904	245	1,018	993	724	658	2,776
Coffee, roasting and grinding.	1914	9	99	329	61	1,532	2,050	Shipbuilding, including boat building.	1914	20	163	445	158	114	332
	1909	5	72	298	52	1,096	1,427		1909	24	212	287	190	204	477
	1904	4	45	.....	23	654	811		1904	11	169	70	122	123	297
Confectionery.....	1914	26	336	293	157	813	1,581	Slaughtering and meat packing.	1914	14	442	1,344	309	6,202	7,487
	1909	19	283	217	138	549	1,215		1909	14	366	752	280	5,015	5,880
	1904	13	133	59	57	141	379		1904	10	246	327	155	2,390	2,907
Copper, tin, and sheet-iron products.	1914	62	466	438	333	1,657	2,675	Stoves, hot-air furnaces, and ranges.	1914	10	80	88	75	129	289
	1909	39	431	253	354	835	1,611		1909	11	86	183	79	130	351
	1904	15	128	13	99	121	300		1904	3	30	28	26	20	139
Flour-mill and gristmill products.	1914	95	450	8,565	330	9,827	11,193	Tobacco, cigars.....	1914	63	154	2	109	148	383
	1909	114	394	11,541	278	7,667	8,891		1909	55	186	.....	171	170	471
	1904	105	395	9,993	271	7,352	8,468		1904	54	163	3	92	179	396
Food preparations, not elsewhere specified.	1914	18	79	633	53	625	878	Woolen goods.....	1914	7	648	1,670	373	943	1,702
	1909	8	50	275	36	352	580		1909	6	466	1,558	201	522	919
	1904	6	61	153	31	244	355		1904	7	566	955	220	496	1,034
Foundry and machine-shop products.	1914	169	1,254	4,238	1,035	1,616	3,823	All other industries.....	1914	372	3,571	74,434	2,579	9,453	15,738
	1909	82	1,055	2,709	892	1,472	3,135		1909	300	4,159	46,436	2,613	7,070	13,511
	1904	42	787	1,172	596	643	1,588		1904	211	2,928	16,790	1,532	5,540	9,213
Furniture.....	1914	21	673	1,674	422	544	1,335								
	1909	19	552	1,501	323	484	1,094								
	1904	18	425	699	233	338	790								

<sup>1</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>2</sup> Includes "pickles, preserves, and sauces."

<sup>3</sup> Includes "tinware, not elsewhere specified."

<sup>4</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

<sup>5</sup> Includes "automobile repairing;" "engines, steam, gas, and water;" "hardware;" "hardware, saddlery;" "iron, and steel, cast-iron pipe;" "steam fittings and steam and hot-water heating apparatus;" and "structural ironwork, not made in steel works or rolling mills."

<sup>6</sup> Includes "pocketbooks;" "saddlery and harness;" and "trunks and valises."

<sup>7</sup> Includes "boxes, wooden packing;" "lumber, planing-mill products, not including planing mills connected with sawmills;" and "window and door screens."

<sup>8</sup> Includes "bookbinding and blank-book making," and "engraving, steel and copper plate, including plate printing."

# MANUFACTURES—OREGON.

19

TABLE 28.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost. of ma- terials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of ma- terials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.															
PORTLAND—All industries.	1914	837	11,273	36,188	\$8,542	\$33,899	\$55,697	Food preparations .....	1914	18	79	633	\$53	\$625	\$878
	1909	649	12,214	32,122	8,979	26,076	46,861		1909	8	50	275	36	352	580
	1904	437	8,171	.....	5,342	17,024	28,651		1904	6	61	.....	31	244	355
Awnings, tents and sails..	1914	5	84	29	45	188	493	Foundry and machine- shop products.	1914	114	1,012	3,323	854	1,311	3,193
	1909	5	95	23	29	314	459		1909	44	799	2,080	704	1,222	2,527
	1904	4	22	.....	12	90	123		1904	21	601	.....	481	455	1,200
Bread and other bakery products.	1914	60	536	438	354	1,441	2,527	Furniture .....	1914	12	608	1,466	389	508	1,247
	1909	63	511	297	363	1,275	2,196		1909	11	478	1,207	283	458	993
	1904	40	358	.....	178	701	1,182		1904	11	360	.....	205	322	720
Butter, cheese, and con- densed milk.	1914	9	124	589	92	1,444	1,726	Ice, manufactured .....	1914	7	54	1,213	46	61	178
	1909	8	139	860	105	1,102	1,431		1909	4	16	575	14	45	108
	1904	6	38	.....	25	432	521		1904	6	45	.....	38	26	137
Canning and preserving..	1914	6	135	192	72	316	585	Leather goods .....	1914	24	170	186	130	583	911
	1909	8	133	77	49	250	464		1909	26	304	136	220	868	1,386
	1904	7	129	.....	41	240	352		1904	15	242	.....	154	488	800
Coffee, roasting and grind- ing.	1914	9	99	329	61	1,532	2,050	Lumber and timber prod- ucts.	1914	35	2,557	14,130	1,957	4,628	7,847
	1909	5	72	298	52	1,096	1,427		1909	42	3,669	13,998	2,672	5,067	10,111
	1904	4	45	.....	23	654	811		1904	28	2,072	.....	1,455	3,101	5,435
Confectionery .....	1914	17	301	260	137	743	1,451	Marble and stonework...	1914	11	67	226	64	111	264
	1909	11	268	203	130	519	1,128		1909	7	38	90	38	71	175
	1904	10	115	.....	50	126	342		1904	4	26	.....	31	64	149
Copper, tin, and sheet- iron products.	1914	45	430	389	311	1,506	2,447	Printing and publishing..	1914	149	1,029	1,505	975	1,260	4,336
	1909	28	378	253	311	732	1,419		1909	132	952	1,402	1,036	847	3,736
	1904	.....	.....	.....	.....	.....	.....		1904	78	534	.....	458	491	1,943
Flourmill and grist mill products.	1914	6	183	1,925	135	4,699	5,229	All other industries .....	1914	310	3,805	9,355	2,867	12,943	20,335
	1909	5	73	1,222	54	1,179	1,337		1909	242	4,239	9,126	2,883	10,679	17,384
	1904	5	88	.....	60	2,457	2,713		1904	192	3,435	.....	2,100	7,133	11,868

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

SALEM .....	1914	67	732	3,185	\$404	\$1,637	\$2,846	SALEM (Continued) .....	1909	62	597	1,688	\$367	\$1,177	\$2,208
-------------	------	----	-----	-------	-------	---------	---------	-------------------------	------	----	-----	-------	-------	---------	---------

- <sup>1</sup> Includes "pickles, preserves, and sauces."  
<sup>2</sup> Includes "tinware, not elsewhere specified."  
<sup>3</sup> Figures can not be shown without disclosing individual operations.  
<sup>4</sup> Includes "automobile repairing;" "engines, steam, gas, and water;" "hardware;" "hardware, saddlery;" and "structural ironwork, not made in steel works or rolling mills."  
<sup>5</sup> Includes "saddlery and harness;" and "trunks and valises."  
<sup>6</sup> Includes "boxes, wooden packing;" "lumber, planing-mill products, not including planing mills connected with sawmills;" and "window and door screens."  
<sup>7</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.  
<sup>8</sup> Includes "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and "lithographing."  
<sup>9</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

## MANUFACTURES—OREGON.

TABLE 29.—DETAIL STATEMENT FOR THE STATE, AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.									WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.	
								Maximum month.	Minimum month.						

## THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

1	All industries.....	2,320	35,449	2,180	1,441	2,315	675	28,829	My 31,596	De 24,815	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	\$139,500,379
2	Agricultural implements.....	3	9	2	1	—	—	6	Jy <sup>4</sup> 9	No <sup>4</sup> 5	8	8	—	—	—	30,805
3	Artificial stone products.....	19	66	17	7	—	—	40	Jy 55	Ja 20	55	55	—	—	—	131,550
4	Automobile bodies and parts.....	6	46	6	3	1	2	35	Au <sup>4</sup> 38	Ja 31	32	32	—	—	—	47,905
5	Automobile repairing.....	55	273	46	20	13	9	185	Jy 212	Ja 164	187	186	—	—	—	220,048
6	Awnings, tents, and sails.....	5	116	3	7	15	7	84	Jy 99	De <sup>4</sup> 68	84	23	61	—	—	345,596
7	Baskets, and rattan and willow ware.	3	21	1	3	—	1	16	Jy 21	De <sup>4</sup> 13	13	13	—	—	—	35,557
8	Bookbinding and blank-book making	6	75	4	4	4	3	60	Au 82	No 51	57	23	34	—	—	44,340
9	Boxes and cartons, paper.....	4	104	2	8	2	2	90	Oc 102	Ja 74	81	30	51	—	—	158,236
10	Boxes, wooden packing.....	16	363	16	13	6	1	327	Se 444	Fe 185	303	344	16	3	—	017,108
11	Brass and bronze products.....	6	48	5	4	4	—	35	Ap <sup>4</sup> 38	Nc <sup>4</sup> 32	32	32	—	—	—	135,048
12	Bread and other bakery products....	163	1,093	200	23	105	65	700	Jy 720	No 670	658	492	162	1	3	1,014,072
13	Brick and tile, terra-cotta and fire-clay products.....	42	455	37	18	16	2	382	—	—	514	514	—	—	—	1,704,121
14	Building brick.....	34	359	33	11	8	—	307	Jy 528	No 142	390	390	—	—	—	1,091,132
15	Sewerpipe and drain tile.....	8	96	4	7	8	2	75	Oc 111	De 28	124	124	—	—	—	672,089
16	Brooms.....	5	53	1	14	2	1	35	Oc 39	Jy 29	38	35	3	—	—	76,498
17	Butter.....	72	477	47	56	68	46	260	Jy 297	Ja <sup>4</sup> 226	252	234	18	—	—	1,320,550
18	Canning and preserving, fish.....	23	425	3	40	73	8	301	Jy 535	Fe 80	578	522	55	1	—	3,850,595
19	Canning and preserving, fruits and vegetables.....	37	497	24	28	19	9	417	—	—	1,450	486	922	5	37	737,313
20	Canned vegetables and fruits.....	13	248	7	10	7	6	218	Je 672	Ap <sup>4</sup> 20	772	171	559	5	37	302,303
21	Dried fruits.....	24	249	17	18	12	3	199	Oc 652	Je 19	678	315	363	—	—	434,920
22	Canning and preserving, oysters.....	5	35	4	2	—	—	29	My 51	Ja 7	41	21	20	—	—	20,501
23	Carriages, wagons, and repairs.....	18	77	24	—	4	—	49	—	—	49	49	—	—	—	63,520
24	Carriages and wagons.....	11	52	16	—	4	—	32	Je <sup>4</sup> 56	Ja 43	31	31	—	—	—	30,020
25	Repair work only.....	7	25	8	—	—	—	17	Je <sup>4</sup> 37	Fe <sup>4</sup> 28	18	18	—	—	—	33,500
26	Cars and general shop construction and repairs by electric-railroad companies.....	4	256	—	5	23	3	225	Ja 287	De 170	170	168	2	—	—	701,318
27	Cars and general shop construction and repairs by steam-railroad companies.....	14	1,705	—	49	53	2	1,601	Au 1,724	My 1,403	1,654	1,653	—	—	—	1,348,651
28	Cheese.....	41	115	23	41	1	—	50	Je 77	Ja 19	58	57	1	—	—	140,684
29	Coffee, roasting and grinding.....	9	193	1	17	64	12	99	Au 109	Mh <sup>4</sup> 91	96	53	42	1	—	756,657
30	Coffins, and burial cases, and undertakers' goods.....	3	9	1	—	1	—	7	My <sup>4</sup> 8	Fe <sup>4</sup> 6	8	6	—	—	—	25,787
31	Condensed milk and milk products, other than butter and cheese.....	5	141	—	8	5	4	124	My 160	Se 104	114	103	9	1	1	812,625
32	Confectionery and ice cream.....	35	551	33	21	72	23	402	—	—	417	136	261	—	—	1,353,318
33	Confectionery, including chewing gum.....	26	456	26	15	64	15	336	Oc 367	Au 298	307	114	251	—	20	1,040,256
34	Ice cream.....	9	95	7	6	8	8	66	Jy 85	Ja 46	50	22	10	—	—	313,002
35	Cooperage, hogsheds and barrels.....	6	35	7	3	1	—	24	Jy <sup>4</sup> 30	Ja 15	21	21	—	—	—	96,846
36	Copper, tin, and sheet-iron products..	62	614	65	21	43	19	466	Jy 638	De 346	390	380	10	—	—	5,407,963
37	Engraving steel and copper plate, including plate printing.....	7	52	2	5	8	1	36	Ja 39	Se 33	36	28	8	—	—	56,122
38	Flavoring extracts.....	4	8	3	1	1	1	2	—	—	2	1	1	—	—	9,423
39	Flour-mill and gristmill products.....	95	696	80	74	75	17	450	Se 539	Ap 366	497	497	—	—	—	9,075,940
40	Food preparations, not elsewhere specified.....	18	128	15	11	20	3	79	—	—	91	76	13	2	—	633,148
41	Breadstuff preparations, macaroni, and meat products.....	9	73	7	4	10	—	52	Oc 57	My 48	55	42	11	2	—	247,245
42	All other preparations for human consumption.....	9	55	8	7	10	3	27	My 39	Mh <sup>4</sup> 20	36	34	2	—	—	385,903
43	Foundry and machine-shop products.....	98	860	82	63	41	14	660	Fe 718	No 591	628	628	—	—	—	2,400,472
44	Fur goods.....	6	54	5	3	5	6	35	De 51	My 21	51	19	32	—	—	153,084
45	Furniture.....	21	751	17	25	25	11	673	—	—	669	663	6	—	—	1,874,131
46	Wood, other than rattan and willow.....	16	647	15	19	18	11	584	Ja 621	Au 529	591	585	6	—	—	1,720,538
47	Metal, including store and office fixtures.....	5	104	2	6	7	—	89	Ja 102	No 77	78	78	—	—	—	153,503
48	Gas and electric fixtures.....	4	38	1	4	9	3	21	Ap <sup>4</sup> 24	No <sup>4</sup> 17	19	19	—	—	—	96,836
49	Gas, illuminating and heating.....	9	570	—	18	149	18	385	Ap 503	Au 306	357	357	—	—	—	12,930,138
50	Glass, cutting, staining, and ornamenting.....	4	26	1	2	1	1	21	Fe <sup>4</sup> 23	Je 17	23	21	2	—	—	155,788
51	Hand stamps.....	3	18	2	1	6	2	7	Se <sup>4</sup> 8	Ja 5	7	7	—	—	—	9,475
52	Ice, manufactured.....	27	163	22	21	9	5	106	Au 155	De <sup>4</sup> 71	101	101	—	—	—	1,224,047
53	Jewelry.....	8	59	9	1	1	3	45	Ja 49	Jy <sup>4</sup> 42	43	43	—	—	—	28,620
54	Leather, tanned, curried, and finished	5	40	4	1	1	—	34	Fe <sup>4</sup> 38	Se 30	31	31	—	—	—	177,494
55	Lime.....	3	19	1	3	1	—	14	Ap 23	De 6	24	24	—	—	—	179,586
56	Liquors, malt.....	10	246	4	16	33	4	189	Jy <sup>4</sup> 208	Fe 170	185	185	—	—	—	3,615,803
57	Looking-glass and picture frames.....	3	8	—	—	—	—	—	—	—	—	—	—	—	—	—
58	Lumber and timber products.....	439	14,030	500	324	311	66	12,829	De 3	Fe <sup>4</sup> 0	3	3	—	—	—	10,318
									My 15,186	De 9,939	14,988	14,936	45	6	1	41,025,901

<sup>1</sup> Owned power only.<sup>2</sup> Includes rented power, other than electric.<sup>3</sup> No figures shown for reasons given in "Explanation of terms."

# MANUFACTURES—OREGON.

21

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$2,760,425	\$2,922,326	\$20,931,577	\$725,562	\$878,709	\$1,256,338	\$61,199,376	\$2,058,445	\$109,761,951	\$46,504,130	219,222	116,591	1,346	57,275	44,010	9,729	1
1,200	7,985	5,410	-----	400	378	8,725	681	29,447	20,041	28	-----	-----	-----	28	-----	2
7,985	1,344	33,471	-----	3,376	1,192	40,647	2,257	146,039	103,135	252	-----	47	-----	205	-----	3
4,920	2,340	32,042	-----	7,260	158	49,485	921	115,261	64,855	42	-----	-----	-----	42	-----	4
29,570	19,606	178,288	-----	44,816	2,268	135,219	10,756	533,961	387,986	293	-----	8	-----	285	-----	5
14,678	22,288	44,923	-----	9,741	2,500	186,575	1,028	492,871	305,268	29	-----	-----	-----	29	-----	6
3,000	257	10,943	-----	576	158	9,112	264	27,826	18,450	8	-----	-----	-----	8	-----	7
10,800	5,502	34,274	30	5,558	869	22,095	1,168	98,302	75,039	63	-----	-----	-----	63	-----	8
17,940	3,273	48,720	-----	9,330	1,198	71,418	1,653	219,202	146,131	50	40	-----	-----	10	-----	9
24,020	9,900	196,256	716	2,190	3,675	545,799	3,156	1,027,246	478,291	1,263	878	10	-----	375	5	10
8,760	2,640	33,688	-----	1,915	780	55,165	4,093	139,647	80,389	138	-----	-----	-----	138	-----	11
47,239	144,264	463,320	255	64,378	18,005	1,812,565	66,963	3,325,789	1,446,261	589	164	39	3	383	30	12
22,885	18,643	200,751	3,012	2,805	9,840	27,292	138,084	521,368	355,992	2,894	2,220	59	-----	615	10	13
12,250	9,910	154,219	2,517	2,050	5,577	12,088	111,162	395,449	272,199	2,411	1,819	57	-----	535	-----	14
10,635	8,733	40,532	495	4,263	15,204	26,922	125,919	83,792	483	401	2	-----	-----	80	10	15
3,400	1,700	17,947	-----	1,987	88	65,893	451	102,680	36,236	74	62	-----	-----	12	150	16
65,832	72,290	202,760	6,990	23,312	7,709	3,532,998	46,504	4,268,652	689,150	1,408	456	28	34	890	-----	17
72,115	71,607	171,679	118,963	17,741	29,659	1,847,606	27,889	2,929,657	1,054,162	1,016	796	55	3	162	4	18
26,564	10,648	131,764	254	7,076	5,982	1,047,425	10,734	1,552,077	493,918	567	403	5	-----	159	-----	19
11,014	4,315	81,743	254	5,026	2,453	341,287	4,994	663,566	317,285	338	261	-----	-----	77	-----	20
15,550	6,333	50,021	-----	2,050	3,529	706,138	5,740	888,511	176,633	229	142	5	-----	82	-----	21
1,680	-----	8,069	-----	201	26,461	4,596	539	42,076	15,076	20	20	-----	-----	90	-----	22
-----	2,760	42,630	351	9,307	1,525	38,519	4,596	152,969	109,854	95	-----	5	-----	31	-----	23
-----	2,760	24,623	351	6,124	1,085	17,133	2,420	88,264	68,711	51	-----	-----	-----	51	-----	24
-----	-----	18,007	351	3,183	440	21,386	2,176	64,705	41,143	44	-----	5	-----	39	-----	25
10,020	24,900	196,136	-----	648	25	300,858	3,646	536,237	231,733	737	200	-----	-----	537	-----	26
77,992	52,795	1,343,158	-----	-----	1,990	939,667	79,640	2,583,653	1,564,346	1,370	689	22	-----	659	-----	27
7,573	240	46,078	865	1,486	1,189	818,028	7,910	906,599	80,661	132	132	-----	-----	-----	-----	28
46,520	132,108	61,354	2,462	17,372	7,020	1,521,754	10,366	2,049,844	517,724	329	-----	-----	-----	329	-----	29
-----	294	5,390	-----	960	149	13,506	484	37,168	23,178	27	-----	-----	-----	27	-----	30
15,935	8,320	76,215	-----	-----	9,794	1,070,998	25,864	1,392,698	295,836	287	180	-----	-----	107	2	31
51,260	108,955	207,856	120	36,440	15,236	1,059,142	30,368	2,025,894	936,384	713	125	4	3	581	-----	32
34,388	95,845	156,045	120	27,315	13,332	797,950	14,337	1,580,735	768,448	293	40	-----	3	250	-----	33
16,872	13,110	51,211	-----	9,125	1,904	261,192	16,031	445,159	167,936	420	85	4	-----	331	-----	34
3,600	1,000	24,658	724	1,400	1,449	39,350	853	106,152	65,949	76	8	5	-----	63	5	35
60,942	52,892	332,624	2,815	18,813	13,983	1,646,350	10,374	2,674,524	1,017,800	438	-----	-----	-----	438	-----	36
13,649	8,186	38,235	60	7,356	350	14,041	1,306	95,691	80,344	17	-----	-----	-----	17	-----	37
897	526	364	50	390	49	4,701	59	10,463	5,703	-----	-----	-----	-----	-----	-----	38
10,065	100,410	329,948	423	40,400	48,438	9,726,888	100,343	11,192,578	1,365,342	8,565	534	212	3,453	4,366	57	39
5,824	25,721	52,733	270	6,044	4,114	610,996	13,768	877,544	252,780	633	515	-----	-----	118	600	40
624	10,367	35,081	-----	2,350	2,757	382,108	8,939	539,550	148,503	574	505	-----	-----	69	600	41
11,200	15,354	17,652	270	4,594	1,357	228,888	4,829	337,994	104,277	59	10	-----	-----	49	-----	42
103,87	41,155	543,159	4,476	27,966	23,039	730,292	50,000	1,870,540	1,090,248	2,573	70	151	62	2,290	-----	43
2,50	15,215	29,261	-----	15,120	1,438	59,222	544	189,554	129,788	8	-----	-----	-----	8	-----	44
65,49	41,332	421,732	75	9,330	10,447	526,675	17,523	1,335,380	791,182	1,074	563	21	32	1,058	520	45
52,14	31,553	352,433	75	1,770	9,924	453,041	15,214	1,123,050	654,795	1,492	473	21	32	968	520	46
13,260	9,779	69,299	-----	7,560	523	73,634	2,309	212,330	136,387	182	90	-----	-----	92	-----	47
11,591	11,742	17,797	-----	3,471	1,448	106,875	1,619	167,297	58,803	30	-----	-----	-----	30	-----	48
40,990	126,207	309,895	-----	102,307	60,113	343,915	343,915	1,528,060	1,124,032	2,482	2,449	8	-----	48	1,112	49
2,400	430	13,597	300	1,340	1,501	8,694	1,062	48,585	38,799	48	-----	-----	-----	48	-----	50
1,500	5,520	4,988	807	1,644	131	5,541	196	28,722	22,985	4	-----	-----	-----	4	-----	51
32,440	9,296	92,488	450	15,919	9,062	35,771	82,563	375,607	257,273	2,650	1,490	-----	248	912	75	52
650	2,001	32,787	180	4,429	160	20,927	536	86,575	65,112	34	-----	-----	-----	34	-----	53
1,200	720	20,090	-----	-----	1,080	144,510	3,247	187,602	39,845	103	49	-----	-----	114	-----	54
1,848	403	8,200	-----	288	5,574	8,686	58,832	25,661	11,401	2,028	1,391	-----	-----	637	-----	55
41,470	8,702	228,313	320	237,426	449,341	-----	-----	1,810,440	1,302,267	-----	-----	-----	-----	-----	-----	56
-----	832	1,120	-----	73	2,403	-----	172	9,550	6,075	3	-----	-----	-----	3	-----	57
714,269	45,298	9,198,082	336,009	45,316	439,330	12,392,084	96,984	27,509,638	15,020,570	95,928	86,371	184	3,855	5,518	6,894	58

<sup>1</sup> Same number reported for one or more months.

<sup>2</sup> Same number reported throughout the year.

## MANUFACTURES—OREGON.

TABLE 29.—DETAIL STATEMENT FOR THE STATE, AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Capital.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.				
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.			
								Maximum month.	Minimum month.								
1 Lumber, planing-mill products, not including planing mills connected with sawmills.	69	905	62	50	52	9	732	Ap	804	De	625	733	733			\$2,823,421	
2 Marble and stone work.	24	135	25	8	11	3	88	My	106	De	74	91	91			246,040	
3 Mattresses and spring beds.	8	77	8	4	4	2	59	Oc	68	Je	49	64	55	9		165,769	
4 Mineral and soda waters.	33	105	37	7	2	2	57	Se	66	Mh	45	57	54	3		167,891	
5 Models and patterns, not including paper patterns.	6	20	9			1	10	Ap	14	Au	8	9	9			14,273	
6 Musical instruments, drums, violins, and other stringed instruments.	6	8	7				1		41		41	1	1			6,170	
7 Optical goods.	5	23	3	6	3		11	Oc	13	Ja	10	12	11		1	33,031	
8 Paints.	5	30	4	3	4	1	18	Oc	23	De	17	18	16	2		302,019	
9 Patent medicines and compounds.	20	97	39	6	7	3	42	Ja	49	Au	36	55	45	10		112,362	
10 Paving materials.	4	35	2	5	2		26	My	61	De	3	44	44			227,781	
11 Printing and publishing, book and job.	112	754	111	54	47	27	515					527	441	80	5	1,250,041	
12 Job printing.	105	699	100	53	33	22	491	Ap	503	Je	474	503	417	80	5	1,157,189	
13 Book printing, publishing, and linotype work.	7	55	11	1	14	5	24	Oc	26	De	22	24	24			93,752	
14 Printing and publishing, newspapers and periodicals.	251	1,880	242	95	457	141	945					961	846	103	11	2,870,709	
15 Printing and publishing.	12	468	7	18	190	20	233	No	251	Jy	221	232	223	8	1	503,281	
16 Printing, publishing and job printing.	189	1,240	195	53	210	70	712	My	727	Ja	693	729	623	95	10	2,210,544	
17 Publishing, without printing.	50	172	40	24	57	51										150,884	
18 Saddlery and harness.	41	250	45	10	26	6	163	My	178	Oc	148	163	161	2		743,410	
19 Shipbuilding, wooden, including boat building.	20	199	31	2	2	1	163					161	161			435,190	
20 New vessels.	9	166	14	1	2	1	148	Mh	205	De	91	149	149			308,088	
21 Small boats, including repair work.	11	33	17	1			15	Mh	18	Se	12	12	12			37,111	
22 Signs and advertising novelties, other than electric.	13	55	13	1	3	2	36	Ap	40	Fe	33	38	37	1		181,016	
23 Slaughtering and meat packing.	14	563	8	25	78	10	442	De	498	My	400	500	482	18		3,477,641	
24 Stoves, hot-air furnaces, and ranges.	10	104	7	12	3	2	80	My	93	Ja	53	82	82			301,875	
25 Structural ironwork not made in steel works or rolling mills.	7	193	5	11	15	1	161	Oc	200	Je	119	154	154			598,099	
26 Tobacco, cigars.	63	232	72	3	3		154	Au	164	De	141	167	142	22	3	157,106	
27 Vinegar and cider.	5	26	1	3	2	1	19	De	41	Ap	7	42	42			119,208	
28 Wirework, including wire rope and cable.	4	11	4	1			6	Mh	9	Se	3	7	7			17,460	
29 Wood, turned and carved.	4	23	1	1			21	Ap	24	Au	19	21	21			35,827	
30 Wooden goods, not elsewhere specified.	5	24	7				17	My	31	Ja	4	26	26			14,280	
31 Woolen goods.	7	694		15	27	4	648	Ap	712	Se	561	633	380	238	6	1,867,087	
32 All other industries*.	151	3,388	121	130	275	83	2,779									27,718,300	

\* All other industries embrace:

Artificial limbs.	1	Carriage and wagon materials.	3	Engraving and die sinking.	2	Hosiery and knit goods.	1
Babbitt metal and solder.	2	Charcoal.	2	Fertilizers.	2	Instruments, professional and scientific.	2
Bags, other than paper.	2	Cleansing preparations.	1	Furnishing goods, men's.	2	Iron and steel, steel works and rolling mills.	1
Baking powders and yeast.	2	Clothing, men's.	1	Furs, dressed.	1	Iron and steel, bolts, nuts, washers, and rivets.	2
Belted leather.	1	Cordage and twine.	1	Galvanizing.	1	Iron and steel, cast-iron pipe.	1
Blacking, stains, and dressings.	1	Cordials and flavoring sirups.	2	Gloves and mittens, leather.	1	Labels and tags.	2
Bluing.	1	Dairymen's and poultrymen's supplies.	2	Grease and tallow, soap stock.	1	Lapidary work.	1
Boots and shoes.	4	Druggists' preparations.	1	Hair work.	2	Lead, bar, pipe, and sheet.	1
Boxes, cigar.	1	Dyeing and finishing textiles.	1	Hardware.	2	Leather goods not elsewhere specified.	1
Brushes, toilet.	2	Electrical machinery, apparatus, and supplies.	1	Hardware, saddlery.	2		
Buttons.	1	Engines, steam, gas, and water.	3	Hats and caps other than felt, straw, and wool.	2		
Carpets, rag.	2			Hats, fur-felt.	2		

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

1 PORTLAND—All industries.	837	14,421	716	664	1,360	408	11,273	Jy	11,936	De	10,655	11,875	10,404	1,410	15	37	\$3,670,058
2 Artificial stone products.	11	34	11	3			20	Ap	29	Ja	8	34	34				57,201
3 Automobile bodies and parts.	6	46	6	3	1	1	35	Au	38	Ja	31	32	32				47,965
4 Automobile repairing.	49	255	39	19	12	9	176	Jy	197	Ja	158	177	176				180,370
5 Awnings, tents, and sails.	5	116	3	7	15	7	84	Jy	99	De	68	84	73	61	1		345,596
6 Boxes and cartons, paper.	4	104	2	8	2	2	90	Oc	102	Je	74	81	80	51			158,236
7 Bread and other bakery products.	60	774	71	22	99	46	536	Ja	553	No	509	487	358				1,222,775
8 Brick and tile, terra-cotta, and fire-clay products.	7	143	4	4	8	1	126	Au	165	De	81	201	201				840,591
9 Butter, cheese, and condensed milk.	9	221	7	18	48	24	124	Je	140	Fe	110	113	99	14			675,589
10 Canning and preserving.	6	168	4	8	17	4	135	Jy	373	Fe	53	325	79	226	5	5	267,749
11 Carriages, wagons, and repairs.	13	62	18				40	Je	10	De	4	36	36				43,081
12 Coffee, roasting and grinding.	9	193	1	17	64	12	99	Au	109	Mh	91	96	53	42	1		756,657
13 Confectionery.	17	409	17	14	64	13	301	Oc	336	Au	262	330	96	232		2	987,545
14 Copper, tin, and sheet-iron products.	45	556	45	20	43	18	430	Jy	603	De	326	332	323	9			5,292,511
15 Engraving, steel and copper-plate, including plate printing.	7	52	2	5	8	1	36	Ja	39	Se	33	36	28	8			56,122
16 Flavoring extracts.	4	8	3	1	1	1	2		42		42	2	1	1			9,423

1 Owned power only.

2 Includes rented power, other than electric.



# MANUFACTURES—OREGON.

23

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$78,233	\$71,979	\$547,897	\$11,125	\$18,707	\$20,826	\$1,322,160	\$36,389	\$2,378,642	\$1,020,093	4,633	2,295	1	70	2,267	1
13,490	13,120	85,001	474	9,090	1,532	141,540	4,554	346,127	200,033	278	29			249	2
6,000	5,508	40,388	100	6,343	1,104	112,484	2,226	210,885	96,175	171				171	3
7,640	4,360	36,796	401	5,124	2,272	82,671	2,926	211,094	125,497	135	25	6	3	101	4
	60	11,220		1,754	86	4,201	756	32,815	27,858	47				47	5
		1,248		1,008	46	5,477	203	17,132	11,452	4				4	6
5,280	2,200	10,139		3,708	103	21,084	171	63,566	42,311	11				11	7
5,600	5,060	13,454		2,353	1,783	120,729	1,726	160,935	38,480	137				137	8
3,920	5,799	21,813		5,795	376	107,973	740	216,714	108,001	25	20	3		2	9
4,765	1,740	21,858	401	2,020	89,976	7,728	7,728	130,752	33,048	1,201	716			485	10
112,365	74,824	471,539	33,648	77,779	8,107	525,167	20,115	1,688,827	1,143,545	680		2	2	676	11
110,285	57,341	438,926	24,179	75,593	7,756	513,840	18,404	1,578,306	1,046,062	667		2	2	663	12
2,080	17,483	32,613	9,469	2,186	351	11,327	1,711	110,521	97,483	13				13	13
188,741	549,709	863,263	185,867	102,357	23,234	935,639	42,961	4,126,752	3,148,152	6,470		72	30	6,368	14
52,910	177,774	229,797	2,304	24,967	4,159	290,059	9,122	1,074,898	775,717	441		2		439	15
102,724	286,324	633,466	63,254	18,487	18,487	611,729	33,359	2,519,620	1,874,983	6,026		70	30	5,926	16
33,107	85,611		171,275	14,136	588	34,302	480	532,234	497,452	3				3	17
17,432	28,910	155,582	326	21,840	4,822	607,139	4,228	952,394	341,027	190	41			149	18
5,060	3,070	157,960		4,369	3,734	111,557	2,891	332,074	217,626	445	247	51		147	19
3,600	3,070	142,681		3,565	3,005	95,652	2,481	292,165	194,032	324	213	7		104	20
1,460		15,279		803	729	15,905	410	39,909	23,594	121	34	44		43	21
2,080	5,230	39,777		12,964	395	50,922	141	152,627	101,564	6				6	22
66,100	98,577	308,717		7,750	9,528	6,142,410	60,045	7,486,920	1,284,465	1,344	187	6	7	1,144	23
16,712	4,350	74,724		7,403	1,337	125,535	3,743	289,037	159,759	88				88	24
23,553	17,545	140,890	900	10,732	3,338	395,162	6,398	649,604	248,044	195				195	25
4,751	2,640	108,614	114	10,214	23,004	147,238	946	383,048	234,864	2				2	26
7,800	2,645	13,438	453	1,900	346	47,924	580	113,314	84,810	94	30		24	40	27
1,200		5,184		780	216	10,064	300	30,085	19,721	22				22	28
875		11,064	350	1,285	295	13,701	198	36,514	22,615	60	60			49	29
		12,264		874	21	10,366	454	27,187	16,367	74	25				30
29,662	42,009	372,957		1,474	12,898	898,430	44,556	1,701,587	758,601	1,070	353	202	625	490	31
351,903	321,679	1,932,604	10,331	93,394	117,214	7,332,527	540,843	12,640,998	4,767,628	71,462	12,787	111	48,821	9,743	239

Liquors, vinous.....	1	Photographic apparatus.....	2	Saws.....	1	Tobacco, smoking.....	1
Lithographing.....	1	Photoengraving.....	2	Shipbuilding, iron and steel.....	1	Tools.....	2
Lubricating greases.....	1	Pickles and sauces.....	4	Shirts.....	1	Trunks and valises.....	5
Millinery and lace goods.....	2	Pipes, tobacco.....	1	Show cases.....	1	Typewriters and supplies.....	1
Mirrors, framed and unframed.....	1	Plated ware.....	2	Soap.....	4	Umbrellas and canes.....	2
Mucilage and paste.....	2	Pocketbooks.....	1	Sporting and athletic goods.....	1	Upholstering materials, excelsior.....	2
Musical instruments, pianos.....	1	Pottery, earthen and stone ware.....	1	Statuary and art goods.....	1	Wall plaster.....	1
Musical instruments, piano, materials.....	1	Printing materials.....	1	Steam fitting and steam and hot water heating apparatus.....	1	Waste.....	1
Needles, pins, and hooks and eyes.....	1	Rice, cleaning and polishing.....	1	Steam packing.....	2	Window and door screens.....	2
Oil, linseed.....	1	Roofing materials, metal.....	2	Stencils and brands.....	2	Wood distillation.....	1
Oil, fish.....	1	Rubber goods.....	1	Stereotyping and electrotyping.....	2	Wood preserving.....	3
Paper and wood pulp.....	5	Sausage.....	1	Surgical appliances.....	2	Wool pulling.....	1
						Wool scouring.....	1

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$1,431,406	\$1,830,081	\$8,541,997	\$239,229	\$668,504	\$517,598	\$33,220,440	\$678,213	\$55,697,440	\$21,798,787	36,188	18,572	58		17,558	1,044	1
3,600		17,468		3,280	553	25,149	574	84,293	58,570	35		2		33		2
4,920	2,340	32,042		7,260	158	49,485	921	115,261	64,855	42				42		3
28,370	18,608	171,955	7,666	42,676	1,841	128,884	10,278	508,418	369,256	269				269		4
14,678	22,288	44,923		9,741	2,500	186,575	1,028	492,871	305,268	29				29		5
17,940	3,273	48,720		9,330	1,198	71,418	1,653	219,202	146,131	50	40			10		6
46,639	131,935	353,543		36,937	14,748	1,393,541	37,914	2,526,548	1,085,093	438	161	22		255	30	7
6,464	7,824	62,072	967	1,160	6,150	15,728	61,159	212,804	135,917	947	757			190	10	8
36,710	45,361	91,688		14,128	2,819	1,423,156	21,248	1,726,341	281,937	589	95			494		9
15,065	27,686	72,274		6,303	2,184	311,441	4,260	585,403	269,702	192	141			51		10
	2,760	34,124	351	8,350	1,472	26,310	3,590	120,934	91,034	70				70		11
46,520	132,108	61,354	2,462	17,372	7,020	1,521,754	10,366	2,049,844	517,724	329				329		12
32,888	94,805	137,315		19,390	12,744	731,692	11,193	1,450,922	708,037	260	40			220		13
58,992	52,592	311,321	2,710	15,935	13,569	1,496,638	9,082	2,446,524	940,804	389				389		14
13,649	8,186	38,235	60	7,356	350	14,041	1,306	95,691	80,344	17				17		15
897	526	364	50	390	49	4,701	59	10,463	5,703							16

\* Same number reported for one or more months.

\* Same number reported throughout the year.

## MANUFACTURES—OREGON.

TABLE 29.—DETAIL STATEMENT FOR THE STATE, AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

PORTLAND—Continued.																
1	Flour-mill and gristmill products....	6	258	4	18	45	8	183	Oc	235	Ap	120	209	209		\$4,048,208
2	Food preparations, not elsewhere specified.	18	128	15	11	20	3	79					91	76	13	633,148
3	Breadstuff preparations, macaroni and meat products.	9	73	7	4	10		52	Oc	57	My	48	55	42	11	247,245
4	All other preparations for human consumption.	9	55	8	7	10	3	27		48		48	36	34	2	385,903
5	Foundry and machine-shop products	53	588	35	43	26	13	471	Fe	529	No	428	445	445		1,680,041
6	Fur goods.....	6	54	5	3	5	6	35	Do	51	My	21	51	19	32	153,084
7	Furniture.....	12	671	6	22	24	11	608					600	595	5	1,705,010
8	Wood, other than rattan and willow.	7	567	4	16	17	11	519	Fe	551	Au	465	522	517	5	1,611,417
9	Metal, including store and office fixtures.	5	104	2	6	7		89	Ja	102	No	77	78	78		153,503
10	Gas and electric fixtures.....	4	38	1	4	9	3	21	Ap <sup>3</sup>	24	No <sup>3</sup>	17	19	19		96,157
11	Glass, cutting, staining, and ornamenting.	4	26	1	2	1	1	21	Fe <sup>3</sup>	23	Je	17	23	21	2	155,788
12	Hand stamps.....	3	18	2	1	6	2	7	Se <sup>3</sup>	8	Ja	5	7	7		9,475
13	Ice, manufactured.....	7	75	4	10	4	3	54	Au	79	Ja	39	45	45		715,450
14	Jewelry.....	8	59	9	1	1	3	45	Ja	49	Jy	42	43	43		28,020
15	Lumber and timber products.....	12	2,208	1	52	60	15	2,080	Ap	2,344	De	1,020	2,130	2,129	1	7,500,535
16	Lumber, planing-mill products, not including planing mills connected with sawmills.	19	456	8	21	32	3	392	Mh	435	No	333	304	394		1,207,103
17	Marble and stone work.....	11	96	11	8	7	3	67	My	79	De	53	67	67		168,480
18	Mineral and soda waters.....	3	24	4	1	1		18	Se	21	De	15	17	16	1	14,281
19	Models and patterns, not including paper patterns.	6	20	9			1	10	Ap	14	Au <sup>3</sup>	8	9	9		14,273
20	Musical instruments, drums, violins, and other stringed instruments.	6	8	7				1		41		41	1	1		6,170
21	Optical goods.....	5	23	3	6	3		11	Oc	13	Ja <sup>3</sup>	10	12	11	1	33,031
22	Printing and publishing, book and job	79	662	69	51	44	26	472					481	408	69	1,071,658
23	Job printing.....	72	607	58	50	30	21	448	Ap	464	Je	432	457	384	69	977,906
24	Book printing, publishing, and linotype work.	7	55	11	1	14	5	24	Oc <sup>3</sup>	26	De <sup>3</sup>	22	24	24		93,752
25	Printing and publishing, newspapers and periodicals.	57	1,011	42	47	356	95	471					476	459	17	1,414,442
26	Printing and publishing.....	4	440	1	15	187	19	218	No	236	Jy	206	215	208	7	446,770
27	Printing, publishing, and job printing.	9	417	4	12	118	30	253	De	261	Ja	243	261	251	10	842,103
28	Publishing, without printing....	44	154	37	20	51	46									125,500
29	Saddlery and harness.....	18	187	20	8	22	6	131	My	144	Se	119	131	129	2	563,834
30	Shipbuilding, wooden, including boat building.	5	48	7		1		40	My	72	De	6	52	52		230,850
31	Signs and advertising novelties, other than electric.	13	55	13	1	3	2	36	Ap	40	Fe	33	38	37	1	181,016
32	Structural ironwork, not made in steel works or rolling mills.	7	193	5	11	15	1	161	Oc	200	Je	119	154	154		508,090
33	Tobacco, cigars.....	22	95	23	1	2		69	Fe	83	Au	64	71	60	11	62,740
34	Wirework, including wire rope and cable.	4	11	4	1			6	Mh	9	Se	3	7	7		17,460
35	All other industries*.....	197	4,268	175	192	287	64	3,550								14,751,111

\*All other industries embrace:

Artificial limbs.....	1	Brushes, toilet.....	2	Coffins, burial cases, and undertakers' goods.....	2	Gloves and mittens, leather.....	1
Babbitt metal and solder.....	2	Buttons.....	1	Cooperage.....	4	Hair work.....	2
Bags, other than paper.....	2	Carpets, rag.....	2	Cordage.....	1	Hardware.....	2
Baking powders and yeast.....	1	Carriage and wagon materials.....	2	Cordials and twine.....	1	Hardware, saddlery.....	1
Baskets, and rattan and willowware	2	Cars and general shop construction and repairs by electric-railroad companies.....	2	Cordials and flavoring extracts.....	2	Hats and caps, other than felt, straw, and wool.....	2
Belting, leather.....	1	Cars and general shop construction and repairs by steam-railroad companies.....	3	Druggists' preparations.....	1	Hats, fur-felt.....	2
Blacking, stains, and dressings.....	1	Charcoal.....	1	Dyeing and finishing textiles.....	1	Hosiery and knit goods.....	1
Bluing.....	1	Cleaning preparations.....	1	Electrical machinery apparatus and supplies.....	1	Ice cream.....	3
Bookbinding and blank bookmaking	5	Clothing, men's.....	1	Engines, steam, gas, and water.....	2	Instruments, professional and scientific.....	2
Boots and shoes.....	4			Engraving and die sinking.....	2	Iron and steel, steel works and rolling mills.....	1
Boxes, cigar.....	1			Fertilizers.....	1	Iron and steel bolts, nuts, washers and rivets.....	2
Boxes, wooden packing.....	2			Furnishing goods, men's.....	1		
Brass, bronze, and copper.....	5			Galvanizing.....	1		
Brooms.....	4			Gas, illuminating and heating.....	1		

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

1 ASTORIA.....	57	1,375	46	38	94	25	1,172	Jy	1,353	De	993	1,254	1,204	49	1	\$5,293,138
2 EUGENE.....	37	322	40	14	21	9	238	Au	270	No	215	225	177	48		651,351
3 MEDFORD.....	18	89	12	9	4	5	59	Jy	71	De	49	66	57	9		230,209
4 SALEM.....	67	934	62	46	74	20	732	Oc	927	Ap	556	1,084	606	458	20	2,365,366

<sup>1</sup> Owned power only.<sup>2</sup> Includes rented power, other than electric.

# MANUFACTURES—OREGON.

25

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					horse-power generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$56,884	\$65,478	\$134,985		\$37,890	\$18,997	\$4,651,837	\$47,007	\$5,228,912	\$5,300,068	1,925	10			1,915	1
15,821	25,721	52,733	\$270	6,944	4,114	610,996	13,768	877,544	252,780	633	515			118	2
4,621	10,367	35,081		2,350	2,757	382,108	8,939	539,550	148,503	574	505			69	3
11,200	15,354	17,652	270	4,594	1,357	228,888	4,829	337,994	104,277	59	10			49	4
80,614	32,526	396,659	4,137	21,100	17,498	519,901	32,430	1,383,591	831,260	1,813				1,813	5
2,750	15,215	29,261		15,120	1,438	59,222	544	189,554	120,788	8				8	6
58,122	40,072	388,647		8,750	9,436	492,415	16,033	1,247,005	738,557	1,466	443			1,023	7
44,862	30,293	310,348		1,190	8,913	418,781	13,724	1,034,675	602,170	1,284	353			931	8
13,260	9,779	69,209		7,560	523	73,634	2,309	212,330	136,387	182	90			92	9
11,591	11,742	17,797		3,471	1,448	106,875	1,619	167,297	58,803	30				30	10
2,400	480	13,597	300	1,340	1,501	8,694	1,092	43,585	33,799	48				48	11
1,500	5,520	4,988	807	1,644	131	5,541	196	28,722	22,985	4				4	12
20,890	5,956	45,610		14,580	4,643	13,691	47,476	177,590	116,423	1,213	960			253	13
650	2,001	32,787	180	4,429	160	20,927	536	86,575	65,112	34				34	14
131,677	105,784	1,620,057	19,398	24,449	103,159	3,943,127	14,474	6,586,719	2,629,118	12,181	11,461			720	15
41,580	40,727	296,289	323	12,175	9,425	578,827	9,969	1,082,843	494,047	1,793	1,090			703	16
13,490	8,400	64,440	275	7,806	817	107,708	3,569	264,265	152,988	226		29		197	17
800	1,800	12,330		880	128	15,768	347	45,590	29,475	9	2			7	18
	60	11,220		1,754	86	4,201	756	32,815	27,858	47				47	19
		1,248		1,008	46	5,477	203	17,132	11,452	4				4	20
5,280	2,200	10,139		3,708	103	21,084	171	63,566	42,311	11				11	21
107,805	71,634	427,541	31,972	67,822	6,722	483,034	16,841	1,520,806	1,020,431	592				592	22
105,725	54,151	394,928	22,503	65,636	6,371	471,707	15,130	1,409,785	922,948	579				579	23
2,080	17,483	32,613	9,469	2,186	351	11,327	1,711	110,521	97,483	13				13	24
120,611	424,696	478,684	156,206	57,602	13,675	703,947	18,008	2,634,823	1,912,868	845				845	25
47,990	173,822	216,099	2,023	23,167	3,896	284,952	8,007	1,028,832	735,873	421				421	26
50,484	172,502	262,585	6,412	22,651	9,204	385,053	9,521	1,134,151	739,577	421				421	27
31,137	78,372		147,771	11,784	575	33,942	480	471,840	437,418	3				3	28
14,312	24,880	107,572	326	13,635	2,787	519,840	2,974	790,154	267,340	171	41			130	29
	1,220	37,464		2,074	2,460	15,572	160	79,925	61,193	84	46			38	30
2,080	5,230	39,777		12,964	395	50,922	141	152,627	101,564	6				6	31
23,553	17,545	140,890	900	10,732	3,338	395,162	6,398	649,604	248,044	195				195	32
1,451	2,640	51,785		4,742	9,542	61,357	219	160,358	98,782						33
1,200		5,184	200	780	216	10,064	300	30,085	19,721	22				22	34
380,013	368,264	2,642,915	9,669	131,407	238,028	12,410,738	268,351	19,510,734	6,841,645	9,172	2,770	5		6,397	35

Lapidary work.....	2	Musical instruments, piano and organ materials.....	1	Safes.....	2	Tobacco, smoking.....	1
Lead, bar, pipe, and sheet.....	1	Oil, linseed.....	1	Sausage.....	1	Tools.....	2
Leather goods, not elsewhere specified.....	1	Paints.....	4	Saws.....	1	Trunks and valises.....	5
Leather, tanned, curried, and finished.....	2	Patent medicines and compounds.....	18	Shipbuilding, iron and steel.....	1	Typewriters and supplies.....	1
Liquors, malt.....	3	Photographic apparatus.....	2	Shirts.....	1	Umbrellas and canes.....	2
Lithographing.....	1	Photoengraving.....	2	Show cases.....	2	Vinegar and cider.....	1
Looking-glass and picture frames.....	2	Pipes, tobacco.....	1	Slaughtering and meat packing.....	4	Waste.....	1
Mattresses and spring beds.....	7	Plated ware.....	2	Soap.....	1	Window and door screens.....	2
Millinery and lace goods.....	2	Pottery, earthen and stone ware.....	1	Statuary and art goods.....	1	Wood preserving.....	1
Mirrors, framed and unframed.....	1	Printing materials.....	1	Steam packing.....	2	Wood turned, and carved.....	2
Mucilage and paste.....	1	Rice, cleaning and polishing.....	1	Stencils and brands.....	2	Wooden goods.....	3
Musical instruments, pianos.....	1	Roofing materials.....	1	Stereotyping and electrotyping.....	6	Wool pulling.....	1
		Rubber goods.....	1	Stoves and hot-air furnaces.....	2		
				Surgical appliances.....	2		

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

\$85,396	\$112,029	\$865,633	\$78,690	\$26,226	\$55,138	\$2,603,881	\$45,001	\$4,587,301	\$1,938,419	8,090	6,312	70	3	1,705	1
16,662	22,540	166,770	6,945	12,086	6,318	390,088	17,192	810,346	403,066	1,061	336	50	123	552	2
13,443	6,325	62,180		4,119	3,412	58,171	7,407	183,023	117,445	441	25	40		376	3
70,652	77,215	403,703	6,136	23,561	34,705	1,577,959	59,256	2,845,844	1,208,629	3,185	1,940	245		1,000	4

<sup>1</sup> Same number reported throughout the year.

<sup>2</sup> Same number reported for one or more other months.